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Findings of the Egyptian Health Care Provider Survey

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Partnerships for Health Reform

PHR

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Abstract

This report presents results from the Egypt Health Care Providers Surveys, the objectives of which were to: provide a comprehensive picture of all sources of health care services; provide policy-relevant data on critical issues for health sector reform; and create a database on health care providers for use by the Ministry of Health and Population in developing policy reform proposals. Five separate surveys were conducted on health care institutions, private clinics, pharmacies, *dayas* (traditional birth attendants), and other practitioners. The sample of 10,048 providers was developed from a complete enumeration of all health care providers in sampling areas and data from the 1986 national census. Key findings included that more than four-fifths of privately practicing physicians also have a public sector job; widespread use of part-time staffing in health facilities supports the multiple job-holding pattern. Multiple employment also is common among dentists, not so among pharmacists. The surveys also measured factors such as patient volume among the different types of providers and facilities, and solicited objective and subjective reports on issues that have implications for quality of care: patient volume, drug availability and job training and satisfaction.

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Acronyms

CCO	Curative Care Organization
CDC	Cairo Demographic Center
DDM	Data for Decision Making
EHCPS	Egypt Health Care Provider Survey
ENT	Ear Nose and Throat
HIO	Health Insurance Organization
IUD	Intrauterine Device
LE	Egyptian pound
MOHP	Ministry of Health and Population
ORT	Oral Rehydration Therapy
PHR	Partnerships for Health Reform Project
SHIP	School Health Insurance Program
THO	Teaching Hospitals Organization
USAID	United States Agency for International Development

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The project benefitted greatly from the interest and oversight of two ministers of health. It was initiated and implemented under the supervision of Professor Ali Abdel Fattah and completed under the current Minister of Health and Population, Professor Ismail Sallam. We are grateful to them for their constant support. Dr. Moushira El Shafei was Director General of Planning during most of the survey work, and she sustained interest and involvement in this large effort despite its long duration. With her encouragement, we quickly produced and presented the first round of descriptive results that have been widely disseminated in Egypt's health policy reform discussions. We are grateful to Dr.Wagida Anwar, head of the Technical Support Office, and Dr. Ibrahim Saleh, the current Director General of Planning for their continued support and guidance. The survey design, implementation, and analysis was possible because of the excellent work done by our colleagues at the DDM Project and the Department of Planning. Dr. Affaf Osman, Dr. Samir Fouad, and Dr. Emad Ezzat were coordinators for the DDM project during the survey work and analysis and contributed greatly to the design and implementation of the survey.

Dr. Hisham Makhlouf, Director of the Cairo Demographic Center, provided oversight to the survey design and analysis. His participation greatly enhanced the quality of our work. Dr. Ferial Abd El-Kader Ahmed of the Cairo Demographic Center and her colleagues participated in the survey design and were responsible for fielding the survey at the national level, entering the data, and initial analysis. Their work was of exceptional quality and we would like to acknowledge their contribution to this activity.

We would like to acknowledge the contribution and guidance provided by Ms. Mellen Tanamaly, Director of the Health Office at USAID, Mr. Carl Abdou Rahmaan, CRHP Project Officer at USAID, and Dr. Sameh El Gayyar, DDM Project Officer at USAID. Their assistance and support was essential for making this large survey successful.

This report was drafted largely by the survey analysis team including Dr. A.K. Nandakumar, Dr. Peter Berman, and Ms. Elaine Fleming. The survey data are available for further analysis at the Department of Planning, Ministry of Health and Population.

Executive Summary

Background

This report presents tabulated results from the Egypt Health Care Providers (EHCP) Surveys, a set of national sample surveys conducted under the Data for Decision Making (DDM) Project as a collaborative effort between the Department of Planning, Ministry of Health and Population (MOHP), the Cairo Demographic Center, and Harvard University's School of Public Health.

While it was well known that the government was not the only provider in Egypt's very pluralistic health care system, little was known in a systematic way about non-government providers. Household surveys reported that non-government providers were an important source of health care. Answers to questions such as who were these providers, what training did they have, what were the characteristics of their practices, where were they located, etc. were not available. There were also other questions, very relevant for policy, for which there were no answers. For example, how was performance in government employment related to multiple job-holding and what could be done to improve the value received for the wages paid by government? There was little information on job and work patterns among physicians with which to investigate such questions.

Objectives of the Surveys

The EHCP surveys had the following objectives: to provide a comprehensive picture of all the main sources of health care services, including government, public and private sector, and traditional providers; to provide policy relevant data on critical issues for Egypt's health sector reform program; and to create a database on health care providers for use by the MOHP in development of policy reform proposals.

Design of the Surveys

To meet these objectives, the EHCP surveys were designed to collect data directly from a representative sample of providers throughout Egypt. Five separate surveys were carried out on health care institutions, private clinics, pharmacies, *dayas* (traditional birth attendants), and other practitioners. Developing the sample frame for these surveys posed some significant technical problems. For non-institutional health providers, there are no complete up-to-date records. The sample for these surveys was developed from two sources: a complete enumeration of all health care providers conducted in sampling areas and data from the 1986 national census. In total, 10,048 providers were identified.

Implementation of the Surveys

Teams of interviewers from the Cairo Demographic Center conducted the surveys. Using the complete enumeration lists and the sampling fractions decided on, a random sample of providers of each type was selected for interview. Most interviews were held with the key individual in charge, e.g. the physician in an individual practice, pharmacist in the pharmacy, etc. For the health care institutions, the institution director or manager was interviewed.

Issues for Future Surveys

Problems arising in the design and implementation of the EHCP surveys included that: there was insufficient information upon which to design the survey and make a proper sample selection; and the reliability and validity of responses was questionable, e.g., financial, time allocation, and work pattern questions may be sensitive, and interviewees may not want to provide detailed information.

Key Findings

The following are some highlights of interesting and important results.

Individual Physician Practices

In general, physicians in private practice work long hours to see relatively few patients, probably reflecting Egypt's large stock of physicians. More than four-fifths of privately-practicing physicians have some type of government or public sector job. Multiple job-holding is the norm.

Patient volume reported for the government and public sector work of privately practicing physicians is much higher than volume reported in their private practices. Physician's earnings in private practice are, on average, modest, although they are certainly several times larger than their salaries in government and public service.

Health Facilities

The largest inpatient facilities tend to be government, including both MOHP and university hospitals. Medium-size inpatient facilities are distributed over wider range of government, public, and private owners. Outpatient facilities are largely found in the MOHP, HIO, and private non-profit and for-profit sectors. Widespread use of part-time staffing is supportive of the multiple job-holding pattern common in Egypt. Egyptian hospitals have a high ratio of physicians to beds. For large inpatient facilities, this averages about one physician for every two beds. For medium facilities, this averages almost one physician per bed. It is likely that nominal and real staffing levels are quite different, especially in government and public sector facilities. Enumerators' subjective reports on quality measures at various types of health facilities generally ranked private and non-MOHP public sector facilities higher than those of the MOHP.

Dayas

A daya (or traditional birth attendant) is usually an older woman who has had several children herself, lives in the community, and learned her profession by apprenticeship. The average daya was 55 years old and had 22 years of experience. Only 14 percent reported having some kind of formal training in health care, 70 percent were illiterate, and none had attended university. Eighty percent of the dayas were in rural areas. All dayas perform deliveries, and 83 percent provide post-natal care. Other services rendered include intra muscular injections, intravenous transfusions, and first aid. All cases with complications were referred to a physician or hospital. Dayas reported a high level of knowledge about family planning methods and 81 percent advise on these methods. While 69 percent reported receiving payment in cash, the others accept a combination of cash and kind. Fees are dictated by the ability of the family to pay. Dayas were by and large satisfied with their work and 79 percent felt that their experience and success were the reasons women came to them for help in delivering their babies.

Dentists

Ninety-one percent of dentist practices were located in urban areas, and 92 percent were males. They had an average experience of 16 years, and 65 percent had earned higher than a bachelor's degree. Multiple employment was common among dentists. On average dentists worked five hours per day, six days per week in government jobs and four hours per day, six days a week in their own clinics. Dentists worked more hours per week in rural areas than urban areas. Dentists saw 14 patients per week in their private clinics at a rate of 0.6 patients per hour worked. They saw more patients per week in urban areas. Although there are more dentists in urban areas, they charge higher fees than those in rural areas. Forty-four percent of dentists were dissatisfied with the number of patients they were seeing in their private clinics. This was significantly higher in rural Lower Egypt. Less than 30 percent of the dentists reported keeping records for each patient.

Pharmacies

There were five times more pharmacies in urban areas than in rural areas. Pharmacists are likely to be male (81 percent) and have worked an average of 11 years at the pharmacy where they were interviewed. Overall pharmacies in the sample had been operating for 18 years. Pharmacists dispensed medicine to those with and without prescriptions. In addition to selling drugs, pharmacists offered advice to their customers. The vast majority of pharmacists have only one job. Forty percent of the pharmacies in the sample reported having contracts with organizations to provide drugs to their beneficiaries. Ninety seven percent reported they could not provide drugs at some time, 52 percent reported an occasional drug shortage, and 25 percent reported chronic shortages. The primary reason for this was difficulty in obtaining credit. In only 13 percent of cases was lack of supply mentioned as a reason. Seventy-five percent suggested increasing the availability of drugs and 44 percent suggested reducing prices as means to improve the quality of services provided.

Other Health Services Providers

This category refers to unlicensed providers, including traditional healers and other non-physicians. Due to their unofficial status it was very difficult to get these providers to participate in the survey. Although it is widely accepted that there are more male than female providers, the majority of traditional health services providers in the sample were female. Eighty-eight percent of these providers lived in rural areas and none had attended university. Nearly all providers give injections to patients, 75 percent dress wounds, and 15 percent set bones. Twenty-four percent furnish patients with drugs or some kind of medication. On average, they saw 26 patients per week, ranging from 8 per week in urban areas to 85 per week in rural Upper Egypt. Lack of proper training and health education was cited as the major problem facing improving the quality of care. Forty-four percent reported that patients come to them first. They felt that their experience and familiarity with the client were the main reasons why patients came to them.

Organization

The report is organized according to the different components of the EHCP survey. The tabulated results from each component are reported separately in the following sections on institutions, private clinics, dentists, pharmacies, dayas, and other providers.

1. Introduction

1.1 Background

This report presents tabulated results from the Egypt Health Care Providers (EHCP) Surveys, a set of national sample surveys conducted under the Data for Decision Making Project (DDM). The surveys were developed as a collaborative effort between the Department of Planning, Ministry of Health and Population (MOHP), the Cairo Demographic Center (CDC), and Harvard University's School of Public Health.

DDM was established in the MOHP in 1993, with financial assistance from the United States Agency for International Development, as a component of the Cost Recovery for Health Project. The project was completed in September 1997. This report is being published by the Partnerships for Health Reform Project, of which the Harvard School of Public Health is a subcontractor.

DDM's objectives were to assist Egyptian authorities to:

develop the essential information base to support health policy analysis and health sector reform;

strengthen the technical capabilities of the Department of Planning, MOHP, to be able to carry out independent analysis of health planning and policy issues; and

formulate health policy strategies and advance health reform efforts.

As part of DDM's assistance to developing policy-relevant information, a number of new data collection and analysis initiatives were undertaken. These included development of a governorate-level "budget tracking system," which would provide information on the allocations of government spending in Egypt's decentralized financing system; studies of national health accounts, first for 1990-91, then again for 1994-95; cost-effectiveness analysis of health interventions, using Egyptian data; and two sets of national surveys, a household health care utilization and expenditure survey, and a set of surveys of health care providers.

1.2 Provider Surveys: Objectives, Design and Implementation

Despite decades of public policy designed to develop government and public sector services, Egypt has a very pluralistic health care system. Even the state-owned sector consists of many different entities that provide health care services, such as the MOHP, the Ministry of Education, the Teaching Hospitals Organization, the Health Insurance Organization (HIO), and the Curative Care Organizations (CCO). There is a large private health care provision sector, including both for-profit and not-for-profit providers. And some types of traditional practitioners are also still widely used by the population.

While it was well known that government was not the only provider, little was known in a systematic way about non-government providers, especially private physicians and the facilities of non-profit organizations. Household surveys reported that non-government providers were an

important source of health care, even for interventions given priority for government services, such as treatment of the major infectious diseases like diarrhea, tuberculosis, and respiratory infections. Answers to basic questions, such as who were these providers, what training did they have, what were the characteristics of their practices, where were they located, etc. were not available.

There were also other questions, very relevant for policy, for which there were no answers. For example, micro studies of government health facilities often reported staff absences during regular hours. It is well known that almost every physician in Egypt obtains some type of government or public sector employment upon graduation from medical training, and that many also maintain multiple jobs including private practice. How was performance in government employment related to multiple job-holding and what could be done to improve the value received for the wages paid by government? There was little information on job and work patterns among physicians, with which to investigate such questions.

The EHCP surveys were developed to enable some sustained enquiry into these and other issues.

1.2.1 Objectives

The EHCP surveys had the following specific objectives:

To provide a comprehensive picture of all the main sources of health care services in the country, including government, public sector, and private sector and traditional providers, through a representative national sample survey.

To provide policy-relevant data on a number of critical issues for Egypt's health sector reform program, including:

- Efficiency indicators for hospitals and health facilities, to gauge the level of efficiency and the relative performance of different types of providers;
- Job and work patterns of physicians in private and public practice and those holding multiple provision roles;
- Response of providers to payment mechanisms and other incentives;
- Descriptive information on other important primary care providers, such as pharmacists, unqualified practitioners, and traditional practitioners.

To create a database on health care providers for use by the MOHP in development of policy reform proposals.

1.2.2 Design of The Surveys

To meet these objectives, the EHCP surveys were designed to collect data directly from a representative sample of providers of different types throughout Egypt. Five separate surveys were carried out: health care institutions, including both inpatient and outpatient institutions;[1] private clinics, which included individual physician practices and dental practices; pharmacies; *dayas* (traditional birth attendants); and other practitioners. The health care institutions survey included a

[1] Health care institutions included the following: hospitals, polyclinics, health office, school health office, and maternal and family planning clinics. As in many countries, these terms describing health facilities are not always a reliable indicator of size, staffing, or function.

range of hospitals of different size and ownership, as well as outpatient facilities of various kinds. Since the private clinic survey also included dentists, who provide very different types of service, these are tabulated in two separate sections of this report.

Developing the sample frame for these surveys posed some significant technical problems. Health care institutions, that is, hospitals and multiple practitioner clinics, and pharmacies are registered with public authorities. Their number and location is known and obtainable. For the other types of health providers, there are no complete and up-to-date records. There is little basis for estimating the size or distribution of the universe of providers from which to draw a sample. There is also no complete listing, which can be used for selecting providers to interview.

The sample for these surveys was developed from two sources. First, a complete enumeration of all health care providers of the five types being surveyed was conducted in a set of sampling areas, selected for national distribution and representativeness. Second, data from the 1986 national census, which enumerated health providers, was used in conjunction with our sample area enumeration, the estimate the total number of health providers in Egypt of different types.

Sample enumeration areas.[2] Twelve governorates were randomly selected representing the five regions of Egypt: Urban governorates, urban and rural Lower Egypt, and urban and rural Upper Egypt. Within each governorate, urban and rural areas were selected and enumerated separately. In total, 83 *shiakhas* (urban) and 167 villages (rural) were covered as the final level of enumeration area.

Selection of the shiakhas and villages to be enumerated was done based on a purposeful consultation with local authorities and other knowledgeable individuals. These were asked to identify shiakhas or villages with a low, moderate, and high concentration of providers. Within each selected higher level administrative area, one area each of high, moderate, and low provider prevalence was enumerated.

Within each enumeration area, field personnel carried out a complete count of all health care providers that could be identified of the five types. In total, 10,048 providers were identified, as shown in Table 1.1.

Table 1.1: Enumeration of Health Providers in Sample Enumeration Areas

Area/Type of Provider	Total
Urban Governorates	3,728
Urban Lower Egypt	1,690
Rural Lower Egypt	1,544
Urban Upper Egypt	2,467
Rural Upper Egypt	619
Total	10,048

[2] Details of sampling methods and results are available in a report and a note ("Estimates of Health Providers") from the Cairo Demographic Center. Both can be requested from the Data for Decision Making Project.

Determining sampling fractions. To determine the final survey sample size and distribution, it was desirable to have some estimate of the total population of providers that the survey would represent. To generate such an estimate, we relied on data from the 1986 census, which did an enumeration of health care providers of various types. Use of this data was based on the assumption that, while the total number of health care providers may be quite different in the mid-1990s than in the mid-1980s, the distribution of providers geographically would not change that much. We could compare data from 1986 on the number and distribution of providers with our enumeration data. The results were quite different. Based on the 1986 census, we should have found only about 2,000 providers in our sample areas, whereas we actually found more than 10,000! Clearly, the preceding data was only a weak basis from which to generalize.

Finally, based on our sample area enumeration we derived high and low estimates of the actual numbers of providers in each region of Egypt. Our actual sample sizes were selected to approximate a percentage of this total population for each type of provider, given our limitations of resources.

1.2.3 Implementation of the Surveys

A team from the Cairo Demographic Center conducted the surveys. Teams of interviewers traveled to previously enumerated areas. Using the complete enumeration lists and the sampling fractions decided on, a random sample of providers of each type was selected for interview.

For most of the provider types, interviews were held with the key individual in charge, e.g. the physician in an individual practice, pharmacist in the pharmacy, etc. For the health care institutions, the institution director or manager was interviewed.

Supervisors and the CDC team reviewed completed questionnaires. Where significant data was missing or unclear, revisits to the providers were carried out.

1.3 Estimates of Egypt's Health Care Provision Supply

As noted above, the surveys were able to combine information from the 1986 national census on health care providers with the full area enumeration to develop high and low estimates of the total population of providers. These are provided below in Table 1.2. This information is useful for understanding the structure of Egypt's health care market, although admittedly it is still at a very high level of aggregation.

Table 1.2: High and Low Estimates of Health Providers in Egypt, 1994

	Urban Governorates		Rural Lower Egypt		Urban Lower Egypt		Rural Upper Egypt		Urban Upper Egypt		Frontier Governorates		Total	
	Low	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**
Hospitals	554	852	56	68	379	412	27	32	396	472	**	36	1,412	1,872
Other health facilities	1,202	1,848	1,226	1,483	659	734	489	588	742	883	*	*	4,318	5,536
Private clinics	14,116	21,697	2,672	3,232	9,635	10,736	694	833	10,002	11,905	*	*	37,119	48,403
Pharmacies	3,387	5,205	1,043	1,262	3,004	3,347	323	388	2,333	2,777	**	138	10,090	13,117
Dayas	52	80	1,607	1,944	794	885	947	1,137	168	199	*	*	3,568	4,245
Other practitioners	172	265	4,281	5,176	785	875	850	1,020	128	153	*	*	6,216	7,489

* No data available
** Official figure available for Frontier Governorates, applied to high estimate

1.4 Issues for Future Surveys

Designing and carrying out the EHCP surveys brought home to the research team a number of difficult issues regarding studies of this type. A preliminary discussion of some of these problems, in the context of this report, may be helpful.

1. *Lack of essential information for sample design*. As noted above, and particularly in the case of physician practices, there was an insufficient information base upon which to design the survey and make a proper sample selection. While individual physicians are registered as part of their professional licensure, these registries are not an accurate reflection of a physician's current location, nor do they correspond to individual physician's practices. They could be working elsewhere in Egypt, or abroad. Similarly, there are no well-maintained records of doctor's office practices. Even less information is available for other types of practitioners.

2. *Reliability and validity of responses*. On the whole, providers cooperated in contributing information to the survey. Specific issues in provider response are discussed in more detail in each section, as appropriate. Several types of questions proved generally problematic.

We anticipated difficulties in obtaining financial information from individual physician practices. However, to our surprise, this information was also lacking or implausibly reported by health facilities, including government facilities. It is possible that facility managers have little knowledge of their budgets and expenditures. This could be because the largest item of expenditure—staff salaries—is essentially invisible at the facility level. However, we also suspect that some of this information is considered sensitive, with managers preferring not to divulge figures. In any case, facility based surveys are not the best way to obtain such data.

Time allocation information is also typically sensitive. From individual physicians, we have treated responses as more the "normative" than "actual" information. In other words, if a private physician says he works 30 hours a week in a government job, we take that to mean that he is contracted to work 30 hours. His actual work time remains unknown. Observation and anecdotal information indicates that many physicians do not appear for their formal government jobs. In contrast, while a large majority of privately practicing physicians reported having a government or public sector job, none reported zero or small numbers of hours attending that job.

For larger health facilities, we were unable to obtain detailed information on work patterns, given the large number of employees involved. Managers and other employees do not know the outside obligations of all staff and probably would not want to provide detailed information on others in any case.

The survey also inquired about output or patient volume from various types of providers. We sometimes find these figures at high variance with the rates of utilization reported in the Egypt Household Health Care Use and Expenditure Survey (Partnerships for Health Reform, 1998) as well as from government sources. The discrepancies occurred in both directions. Physicians' private patient output is well below what we would expect from reported household utilization figures. Since volume is highly correlated with earnings, especially for private practices, providers have a strong incentive not to be completely forthcoming. We would treat the estimates of physician volume and earnings (based on volume figures) provided here as low boundaries of actual output.
In contrast, hospitals reported occupancy rates well above those available from routine MOHP statistics. Since these were computed from bed-day volume reported for each hospital department, they may be plausible figures. This would suggest that our hospital sample may have favored some of the better functioning government and public sector facilities.

1.5 Key Findings

Each section of the report discusses the finding on its component of the EHCP surveys. The following are some highlights of interesting and important results.

1.5.1 Individual Physician Practices

In general, physicians in private practice work long hours to see relatively few patients. This probably reflects Egypt's large stock of physicians in comparison with other countries at similar levels of income. The EHCP survey suggests that there is not a severe supply constraint for physician services. This varies for different parts of the country.

More than four-fifths of physicians in private practice have some type of government or public sector job and some have two or even three additional jobs. Multiple job-holding is the norm.

Patient volume reported for the government and public sector work of privately practicing physicians is much higher than volume reported in their private practices. This probably reflects several factors, including: some under-reporting of private practice volume; a large supply relative to constrained demand for private services; and crowding at public facilities. Also, since private physicians may be over-reporting the actual time they spend in government and public practice, the volume difference may be suggestive of significantly lower quality in government/public facilities.

Physicians' earnings in private practice are, on average, modest, although they are certainly several times larger than their salaries in government and public service. Given the large supply of physicians in Egypt and the low productivity of those in public employment, government may be able afford substantial improvements in performance, as well as significant purchasing of private provision capacity, if it uses its financing more wisely.

1.5.2 Health Facilities

There is a wide range of health care institutions and facilities distributed over a number of different institutional owners in government, public, private non-profit, and private for profit sectors. However, these do cluster to some degree by institutional owner. The largest inpatient facilities tend to be government, including both MOHP and university hospitals. Medium-size inpatient facilities are distributed over wider range of government, public, and private owners. Outpatient facilities are largely found in the MOHP, HIO, and private non-profit and for-profit sectors. Private facilities tend to be founded most recently, suggesting growth in that sector.

Many health facilities make significant use of both full- and part-time staff. Widespread use of part-time staffing, is, of course, generally supportive of the multiple job-holding pattern common in Egypt.

Egyptian hospitals have a high ratio of physicians to beds. For large inpatient facilities (>100 beds), this averages about one physician for every two beds. For medium facilities (10-100 beds) this averages almost one physician per bed. It is likely that nominal and real staffing levels are quite different, especially in government and public sector facilities.

Enumerators' subjective reports on quality measures at various types of health facilities generally ranked private and public sector facilities higher than those of the MOHP.

1.5.3 Dayas

A *daya* (or traditional birth attendant) is usually an older woman, who has had several children herself, lives in the community and learned her profession by apprenticeship. The average age of the daya in the sample was 55 years, and they have an average of 22 years of experience working as a daya. Only 14 percent of the dayas in the sample reported having some kind of formal training in health care.

Eighty percent of the dayas in the sample were in rural areas, with the fewest being found in urban governorates.

The educational status of dayas is very low, as 70 percent are illiterate. No one in the sample had attended an university, 11 percent had attended secondary school or higher, 12 percent reported reading and writing as their highest educational status, 3 percent had attended primary school, and 4 percent went to preparatory school.

While all dayas perform deliveries, 83 percent reported providing post-natal care. The other services rendered by dayas include intramuscular injections (20 percent of sample), intravenous transfusions (15 percent of sample), and first aid (11 percent of sample).

Forty-eight percent of the dayas reported finding complications either during pre-natal check up or during delivery. All cases with complications are either referred to a physician or hospital and 82 percent checked to see whether the referred patient actually went to the physician or hospital.

Dayas reported a high level of knowledge about family planning methods and 81 percent either always or sometimes advise mothers on these methods.

While 69 percent of dayas reported receiving payment in cash the others reported accepting a combination of cash and kind. Not surprisingly the fees they charge is dictated by the ability of the family to pay.

Dayas are by and large satisfied with their work and 79 percent feel that their experience and success were the reasons women came to them for help in delivering their babies.

1.5.4 Dentists

Dentist practices are more likely to be located in urban areas: 91 percent were located in urban areas and 9 percent in rural areas.

Dentists are more likely to be males (92 percent of the sample), have an average experience of around 16 years. Sixty-five percent of the sample had a qualification higher than a bachelor's degree.

Sixty-eight percent are open only in the evening, 29 percent open both in the morning and evening, and 3 percent are open in the morning only.

Multiple employment is common among dentists. Seventy-three percent had two jobs, 6 percent had three jobs, and 1 percent reported having four jobs. Sixty-one percent of those with two jobs are employed by the MOHP, 20 percent work for universities, and 10 percent work for the HIO.

On average dentists work five hours per day, six days per week in their government job and four hours per day, six days a week in their own clinics. Dentists work more hours per week in rural areas than urban areas.

Dentists see on average only 14 patients per week in their private clinics at a rate of 0.6 patients per hour worked. Dentists see more patients per week in urban areas, with the exception of rural Upper Egypt.

The average fee for a dental exam ranges from L.E. 4 to L.E. 13 by region. Even though there are more dentists in urban areas, they tend to charge higher fees than dentists in rural areas, where there are relatively few dentists.

Forty-four percent of dentists are dissatisfied with the number of patients they see in their private clinics. This is significantly higher in rural Lower Egypt. Less than 30 percent of the dentists reported keeping records for each patient. Where records are kept it is the dentist who fills in this information.

1.5.5 Pharmacies

There were five times more pharmacies in urban areas or urban governorates than in rural areas.

Pharmacists are more likely to be male (81 percent of sample) with an average age of 42 years. Sixty-eight percent of them live in the same city or village where the pharmacy is located and have been working for an average of 11 years at the pharmacy where they were interviewed.

Eighty-one percent of the pharmacists reported owning the pharmacy, 6 percent are co-owners, and 13 percent are employed by others.

Overall pharmacies in the sample have been operating for 18 years. Thirty-six percent of the pharmacies reported being open seven days a week and 64 percent are open six days a week. Pharmacies are open on average 12 hours per day; those in rural Upper Egypt reported being open for roughly 10 hours per day.

Pharmacists reported dispensing medicine to those with and without prescription. Forty-two percent of their customers have prescriptions. In 16 percent of cases the customer consults with the pharmacist about their condition and the pharmacist then prescribes medication, and in the remaining cases the pharmacist sells what the customer wanted.

In addition to selling drugs, pharmacists reported that they offered advice to their customers. Sixty-one percent offer advice on laboratory or other investigations to be carried out.

Unlike physicians and dentists, the vast majority (91 percent) of pharmacists have only one job. They work 54 hours per week at their first job. Those with second jobs work on average 29 hours at that job.

Forty percent of the pharmacies in the sample reported having contracts with organizations to provide drugs to their beneficiaries.

Ninety-seven percent of the pharmacists reported that they could not provide drugs to somebody who needed them at some time, 52 percent reported that they sometimes face a shortage of drugs, and 25 percent reported chronic shortages of drugs. The primary reason for this shortage (88 percent) is the difficulty in obtaining credit. In only 13 percent of the cases was lack of supply mentioned as a reason.

Seventy-five percent of the pharmacists suggested increasing the availability of drugs and 44 percent suggested reducing prices as means to improve the quality of services they provide.

1.5.6 Other Health Services Providers

This category refers to traditional healers and other non-physicians who provider health care services. They are unlicensed providers who are not officially allowed to operate, but who nevertheless provide health care services. Due to their unofficial status it was very difficult to get these providers to participate in the survey. The resulting sample size is therefore not only very small but the results may not be representative of the population of "other health service providers." To that extent the results should be viewed with caution.

Even though it is widely accepted that there are more male than female providers, the majority of traditional health services providers in the sample were female. This probably reflected the fact that female providers were more likely to participate in the survey than their male counterparts.

Eighty-eight percent of these providers live in rural areas and have lived at their current residence for 24 years. Eighty-four percent were married. None had attended a university.

Nearly all providers give injections to patients, 75 percent of providers dress wounds, and 15 percent set bones.

Twenty-four percent of providers furnish patients with drugs or some kind of medications. On average, they see 26 patients per week. However, this ranges from eight visits per week in urban areas to 85 visits per week in rural Upper Egypt.

Sixty-six percent of the sample have a second job with 79 percent of these jobs being at the MOHP.

Sixty-one percent of those surveyed said they do not charge anything for their services—a result that cannot be relied upon to be accurate.

Lack of proper training and health education was cited as the major problem facing them in improving the quality of care they provided.

Forty-four percent of the sample reported that patients come to them first, with the rest saying that patients come to them after first consulting another provider. They felt that their experience and familiarity with the client are the main reasons why patients come to them.

1.5.7 Additional Analysis

This report provides an extensive look at the tabulation analysis that has been done with the EHCP survey results. It is intended as a basic reference document for those interested in the general findings. It is also a stepping off point for further, more focussed investigation of specific issues.

One focus area for additional analysis at this time relates to the role of private physicians in Egypt's health care system. This includes estimates of the total quantity of physician supply as measured by a variety of indicators and the allocation of this supply across government, public, and private provision. Economic analysis of physicians' response to prices and wages in multiple employment is also being done.

1.6 Policy Relevance

While specific policy recommendations are outside the scope of this report, the findings here contain a wealth of policy-relevant implications for Egyptian decision-makers. For example, Section 3 of the report examines carefully the work effort per week of physicians who maintain their own private clinic but who also practice in the government or public sector. As the number of jobs that a single physician holds increases (many physicians have two jobs; others have three or four), the amount of time that that physician spends in the government job decreases—theoretically reducing the access to health care by poor people who cannot afford private sector care. One policy implication is that decision-makers should consider the current policy of allowing multiple employment. However, if they allow physicians to practice in only one sector, they must remunerate public sector physicians adequately to provide them an incentive to choose that sector.

1.7 Guide to the Report

The report is organized according to the different components of the EHCP survey. The tabulated results from each component are reported separately in the following sections on institutions (2), private clinics (3), dentists (4), pharmacies (5), dayas (6), and other providers (7).

2. Institutions

2.1 Overview

The Health Services Provider Survey classified institutions by affiliation and institution type (see Annex A). To facilitate analysis of the survey the 11 institution types were aggregated into the following four facility categories:

Large inpatient facility: Facility offering inpatient services with 100 or more beds

Medium inpatient facility: Facility offering inpatient services with 10 or more beds, but fewer than 100

Small inpatient facility: Facility offering inpatient services with fewer than 10 beds

Outpatient facility: Facility offering outpatient services only

Similarly, administrative affiliation was aggregated up from its 11 categories to the following six: Ministry of Health and Population, Cairo Curative Organization, Health Insurance Organization, private institutions, universities and others. Other ministries, educational institutions and hospitals, public sector companies, syndicate and professional groups, co-operatives, and others are grouped under Others. The survey covered 12 of the 28 governorates in Egypt: all four urban governorates, four governorates from Upper Egypt and four governorates from Lower Egypt. These governorates were then divided into five regions: Urban Governorates, rural Lower Egypt, urban Lower Egypt, rural Upper Egypt and urban Upper Egypt. The survey interviewed 555 institutions, but only 537 replies were used for this report.[3]

2.2 Supply of Providers

The distribution of sampled institutions by affiliation, region and facility type is shown in Table 2.1. There are 203 institutions with inpatient facilities, 185 of which have both inpatient and outpatient facilities, and 18 with only inpatient facilities. The remaining 334 institutions have outpatient facilities only. MOHP facilities, CCOs and universities account for 91 percent of large inpatient facilities in the sample. Seventy-five percent of large inpatient facilities are MOHP facilities, 9 percent are CCO and 7 percent are university affiliated. Private sector inpatient facilities are concentrated in medium (38 facilities) and small (27) facilities rather than large (one) facilities. While 70 percent of private sector facilities are inpatient, 64 percent of MOHP facilities are outpatient. Other affiliations and HIOs are the next main providers of outpatient care with 33 percent and 18 percent of all outpatient facilities respectively.

[3] For example, some institutions reported having physicians, but no beds; others reported having beds, but no physicians.

Table 2.1 : Number of Institutions by Affiliation, Region and Facility Type

Affiliation/Facility	Large Inpatient Facility	Medium Inpatient Facility	Small Inpatient Facility	Outpatient Facility	Total
MOHP	42	26	10	137	215
CCO	5	1	0	0	6
HIO	2	2	0	60	64
University	4	0	0	0	4
Private Sector	1	38	27	28	94
Other	2	20	23	109	154
Total	56	87	60	334	537
Region					
Urban Governorates	16	31	36	131	214
Rural lower	1	12	5	62	80
Urban lower	20	11	10	51	92
Rural upper	5	8	1	41	55
Urban Upper	14	25	8	49	96
Total	56	87	60	334	537

Definitions:

Large Inpatient Facility	facility offering inpatient services with 100 or more beds
Medium Inpatient Facility	facility offering inpatient services with 10 or more beds, but fewer than 100
Small Inpatient Facility	facility offering inpatient services with fewer than 10 beds
Outpatient Facility	facility offering outpatient services only

Approximately 90 percent of large inpatient facilities sampled are concentrated in urban areas, with 29 percent in urban governorates, 36 percent in urban Lower Egypt and 25 percent in urban Upper Egypt. Seventy-seven percent of medium inpatient facilities, 90 percent of small inpatient facilities and 70 percent of outpatient facilities are in urban areas. Within rural areas, Lower Egypt is better served than Upper Egypt, with approximately 14 percent of both large and medium inpatient facilities, 8 percent of small inpatient and 17 percent of outpatient facilities in comparison with 9 percent of large inpatient, 9 percent of medium inpatient, 13 percent of small inpatient and 15 percent of outpatient facilities, respectively. Table 2.2 shows the number of institutions by affiliation and region. Table 2.3 shows the number of institutions with outpatient clinics by affiliation and facility.

Table 2.2: Number of Institutions by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	50	57	38	41	29	215
CCO	6	0	0	0	0	6
HIO	30	7	13	4	10	64
University	1	0	2	0	1	4
Private	38	3	21	4	28	94
Other	89	13	18	6	28	154
Total	214	80	92	55	96	537

Table 2.3: Number of Institutions with Outpatient Clinics by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	40	25	10	137	212
CCO	5	1	0	0	6
HIO	0	1	0	60	61
University	3	0	0	0	3
Private	1	29	26	28	84
Other	2	19	23	109	153
Total	51	75	59	334	519

2.3 Characteristics of Supply

Of the facilities sampled, university facilities, both inpatient and outpatient, have been in operation for an average of 33 years, in contrast with private sector facilities, which have been operating only for eight years. MOHP and CCO facilities average 28 and 24 years, respectively, while HIOs and others have both been operating for approximately 11 years. Expansion of the HIO sector is due to the introduction of the School Children's Health Insurance Program in 1993, which increased HIO coverage of the population from 10 percent to about 35 percent. However the most recent expansion appears to have been in the private sector. Table 2.4 shows the mean and median years in operation by affiliation for all facilities.

Table 2.4: Years in Operation by Affiliation

Affiliation	Mean	Median
MOHP	27.94	28
CCO	24.00	8
HIO	11.94	2.5
University	33.25	34
Private	8.38	5
Other	11.60	9

2.3.1 Beds

The survey found 19,782 beds in the facilities sampled. There were 11.2 percent in first class accommodation, 19.1 percent in second class, 13.1 percent in third class and 56.6 percent were free of charge (Tables 2.5 and 2.6). MOHP facilities had the most beds overall, the most free-of-charge beds and the least number of first class beds. In contrast, private facilities have the greatest number of first class beds and the least number of free-of-charge beds. Forty-six percent of all beds in the private sector and CCOs[4] were first class, while only 1 percent and 9 percent of their total beds, respectively, were for patients who are treated free of charge. MOHP facilities have the greatest number of second, third and free-of-charge beds, while HIOs have the least number of beds in these classes. Approximately 89 percent of private beds were in first or second class accommodation. This indicates that the private sector provides for the upper end of the market, either those who can afford to pay or are willing to pay in order to be treated in the private sector. On the other hand, MOHP and university facilities assign the majority of their beds to free care and the least to first class accommodation.

Table 2.5: Number of Beds by Class and Affiliation

Affiliation/ Class	MOHP	CCO	HIO	University	Private Sector	Other	Total
First	384	798	44	290	587	112	2,215
Second	1,340	524	330	432	551	611	3,788
Third	1,287	248	26	496	123	413	2,593
Free	8,470	154	220	2,215	18	109	11,186
Total	11,481	1,724	620	3,433	1,279	1,245	19,782
Percentage	58.04	8.71	3.13	17.35	6.47	6.29	100

Table 2.6: Percentage of Beds by Class and Affiliation

Affiliation/ Class	MOHP	CCO	HIO	University	Private Sector	Other	Total
First	3.34	46.29	7.10	8.45	45.90	9.00	11.20
Second	11.67	30.39	53.23	12.58	43.08	49.08	19.15
Third	11.21	14.39	4.19	14.45	9.62	33.17	13.11
Free	73.77	8.93	35.48	64.52	1.41	8.76	56.55
Total	100	100	100	100	100	100	100

Ninety-two percent of all beds are in urban areas: 35 percent in urban governorates, 33 percent in urban Lower Egypt and 24 percent in urban Upper Egypt. Table 2.7 shows that in all regions free beds account for the greatest percentage of total beds.

[4] CCOs are required by law to reserve 20 percent of beds for indigent patients.

Table 2.7: Percentage of Beds by Class and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
First	6.98	0.06	2.17	0.12	1.86	11.20
Second	6.78	0.77	5.01	0.87	5.71	19.15
Third	5.62	0.33	3.69	0.14	3.32	13.10
Free	15.63	2.42	22.19	3.57	12.74	56.55
Total	35.01	3.58	33.06	4.70	23.63	100

As Table 2.8 shows, the average number of beds is 270 in large inpatient facilities, 32 in medium inpatient facilities and five in small inpatient facilities, to give an overall average of 90 beds per facility. While the average CCO facility has 302 beds, university facilities are much larger with an average of 844 beds. On average, MOHP facilities have 129 beds per facility. Private facilities average only 19 beds. For larger facility types, the average number of beds in MOHP facilities exceeds that of the private sector. University, CCO, and MOHP facilities are the largest providers of inpatient care, while others, private, and HIO facilities provide the least number.

Table 2.8 also shows that within the large inpatient classification, there is a wide range in size among affiliations. University facilities have the greatest number of beds—844—in the large-facility category. "Other" facilities comes next, with 278 beds. CCO and MOHP facilities are similar in size, with 226 and 211 beds, respectively. Large private facilities have 175 beds. Among medium and small facilities, CCOs and HIOs have the greatest number of beds. Private facilities average the least number of beds in large and medium facilities while MOHP facilities have the least number in small facilities.

Table 2.8: Average Number of Beds by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	211	39	4	129
CCO	371	94	—	302
HIO	226	71	—	148
University	844	—[5]	—	844
Private	175	24	5	19
Other	278	29	5	28
Total	270	32	5	90

[5] "—" signifies that there is no facility in the sample in the particular category. "†" signifies that the question was not answered.

Table 2.9: Average Number of Beds by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	142	38	199	82	122	129
CCO	302	—	—	—	—	302
HIO	†	73	226	†	69	148
University	393	—	775	—	1,431	844
Private	23	2	16	16	18	19
Other	16	10	67	4	78	28
Total	70	29	150	66	97	90

2.3.2 Staffing

There are 13,691 physicians in the sample: 7,565 full-time and 6,931 part-time. Tables 2.10 and 2.11 present the distribution of full-time and part-time physicians by affiliation and facility, respectively.

Table 2.10: Total Number of Full-Time Physicians by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOH	3,832	586	316	737	5,471
CCO	291	15	—	—	306
HIO	238	92	—	342	672
University	255	—	—	—	255
Private	0	194	86	61	341
Other	67	159	78	216	520
Total	4,683	1,046	480	1,356	7,565

Table 2.11: Total Number of Part-Time Physicians by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOH	1,428	136	45	109	1,718
CCO	238	85	—	—	323
HIO	52	137	—	688	877
University	528	—	—	—	528
Private	57	661	252	81	1,051
Other	49	529	371	680	1,629
Total	2,352	1,548	668	1,558	6,126

On average there are 4.06 full-time physicians and 4.66 part-time physicians per outpatient facility in the sample. Table 2.12 shows the average number of physicians, full-time and part-time, in outpatient facilities by affiliation. In private outpatient facilities the number of physicians is almost equally split between full-time and part-time. In contrast, nearly all MOHP physicians are full-time, with approximately five full-time physicians and one part-time physician per outpatient facility.

Table 2.12: Average Number of Physicians per Outpatient Facility by Affiliation

	Full-Time	Part-Time
MOH	5.38	0.80
HIO	5.70	11.47
Private	2.18	2.89
Other	1.98	6.24
Total	4.06	4.66

On average there are approximately 31 full-time physicians and 22 part-time physicians in each inpatient facility as shown in Tables 2.13 and 2.14. There is a big gap in the number of full-time physicians in a large facility versus a medium facility: a large inpatient facility has an average of 84 full-time physicians, while a medium inpatient has only 12 full-time physicians. Small inpatient facilities have even fewer: eight full-time physicians per facility. On average there are 22 part-time physicians in inpatient facilities: 42 in large inpatient facilities, 18 in medium facilities and 11 in small facilities.

Table 2.13: Average Number of Full-Time Physicians in Inpatient Facilities by Affiliation

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOH	91	23	32	61
CCO	58	15	—	51
HIO	119	46	—	83
University	64	—	—	64
Private	0	5	3	4
Other	33	8	3	7
Total	84	12	8	31

Table 2.14: Average Number of Part-Time Physicians in Inpatient Facilities by Affiliation

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOH	34	5	4	21
CCO	48	85	—	54
HIO	26	69	—	47
University	132	—	—	132
Private	57	17	9	15
Other	24	26	16	21
Total	42	18	11	22

The percentage distribution of full-time and part-time specialists in the sample is presented in Tables 2.15 and 2.16 by affiliation and facility, respectively. As expected, the majority of full-time specialists, by affiliation, are located in large inpatient facilities, with the exception of HIO and other facilities where 40 percent and 44 percent of full-time specialists, respectively, work in outpatient facilities. Also the majority of full-time specialists in private facilities are in medium or smaller size facilities. The distribution of physicians is in line with the distribution of facilities by affiliation (see Table 2.1). The distribution of part-time specialists is similar to that of full-time specialists.

Table 2.15: Percentage Distribution of Full-Time Specialists by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOH	74	11	4	11	100
CCO	94	6	—	—	100
HIO	34	26	—	40	100
University	100	—	—	—	100
Private	0	57	23	19	100
Other	13	27	16	44	100
Total	65	15	5	15	100

Table 2.16: Percentage Distribution of Part-Time Specialists by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOH	84	7	3	7	100
CCO	87	13	—	—	100
HIO	8	15	—	77	100
University	100	—	—	—	100
Private	6	64	23	7	100
Other	3	36	21	40	100
Total	40	25	10	24	100

Table 2.17 shows the distribution of specialists by work time, affiliation and region. With the exception of MOHP facilities, the percentage of part-time specialists exceeds that of full-time specialists. In particular, approximately three-quarters of private and other specialists are part-time. In contrast, approximately three-quarters of specialists in MOHP facilities are full-time. Approximately 37 percent of full-time and 13 percent of part-time specialists work for the MOHP, while 2 percent of all specialists are full-time in private facilities, 8 percent are part-time. In all cases, except in the MOHP, the percentage of full-time physicians is less than the percentage of part-time physicians. This suggests that nearly half of all physicians working in institutions potentially may have more than one job.

Ninety-three percent of all specialists are in urban areas: 43 percent in urban governorates, 29 percent in urban Lower Egypt and 21 percent in urban Upper Egypt. Four percent of all specialists are in rural Lower Egypt and 3 percent in rural Upper Egypt. Fifty percent of specialists work in MOHP

affiliated facilities and 10 percent in private institutions. Urban governorates and urban Upper Egypt have the least percentage of specialists that are full-time of the five regions. In rural Lower Egypt approximately 70 percent of specialists employed are full-time as are 66 percent of specialists in urban Lower Egypt and 57 percent of specialists in rural Upper Egypt.

Table 2.17: Percentage Distribution of Specialists by Affiliation and Region

	Full-Time Percentage	Part-Time Percentage	Total Percentage
MOHP	74.84	25.16	50.40
CCO	41.56	58.44	4.87
HIO	43.08	56.92	10.81
University	38.23	61.77	7.83
Private	23.84	76.16	10.20
Other	24.38	75.62	15.89
Total	53.70	46.30	100.00
Urban Governorates	47.31	52.69	43.27
Rural lower	70.86	29.14	3.51
Urban lower	65.99	34.01	29.49
Rural upper	57.14	42.86	3.09
Urban Upper	46.12	53.88	20.65
Total	53.70	46.30	100.00

2.3.3 Mode of Payment

Tables 2.18 and 2.19 show the percentage distribution of full-time and part-time physicians by payment method and affiliation. The survey identified four payment methods: fixed salary, fee per patient, share of fee charged to patient, and other. Approximately 89 percent of all full-time physicians receive a fixed salary, but only 40 percent of part-time physicians do. Twenty-two percent of part-time physicians receive a share of the fee charged and 28 percent receive payment according to the number of patients seen. This contrasts with only 6 percent of full-time physicians receiving a percentage of the fee and 2 percent according to the number of patients. This indicates that there is potentially a greater incentive for part-time physicians to induce demand than for full-time physicians. Other methods of payment account for approximately 12 percent of part-time and 3 percent of full-time physicians. Nearly all full-time physicians are paid a fixed salary in MOHP, CCO, and HIO facilities. All full-time physicians in universities receive a fixed salary. In contrast, percentage of fee charged to patients is the most common payment method for full-time physicians in private and other facilities.

Table 2.18: Percentage Distribution of Payment Methods for Full-Time Physicians

	Fixed Salary	Number of Patients	Percentage of Fee	Other	Total
MOHP	97.13	0.02	0.67	2.18	100
CCO	97.03	0.00	0.00	2.97	100
HIO	97.42	0.14	0.00	2.44	100
University	100.00	0.00	0.00	0.00	100
Private	25.00	26.65	40.11	8.24	100
Other	25.86	15.00	53.97	5.17	100
Total	88.90	2.31	6.18	2.60	100

Table 2.19: Percentage Distribution of Payment Methods for Part-Time Physicians

	Fixed Salary	Number of Patients	Percentage of Fee	Other	Total
MOHP	91.40	3.59	2.48	2.53	100
CCO	1.41	65.96	11.50	21.13	100
HIO	34.96	37.68	0.00	27.36	100
University	63.54	7.60	0.00	28.87	100
Private	17.71	60.53	19.95	1.81	100
Other	1.28	26.90	66.31	5.50	100
Total	39.68	27.99	21.95	10.38	100

Almost half of all facilities reported having a declared fee schedule and 15 percent price discriminate as shown in Table 2.20. By affiliation, half or more of all facilities, with the exception of MOHP facilities, have a declared price schedule. HIO is an outlier, with only 8 percent of its facilities having a declared price schedule. By region, urban areas tend to have a higher percentage of institutions with price schedules than rural areas. Urban areas also have a higher degree of price discrimination with 21 percent of facilities in urban governorates, 18 percent in urban Lower Egypt and 13 percent in urban Upper Egypt engaging in price discrimination. This contrasts with only 5 percent of institutions in rural Lower and 4 percent in rural Upper Egypt declaring that they price discriminate. By affiliation, 50 percent of all CCOs and university facilities and 26 percent of private facilities price discriminate, while only 7 percent of MOHP facilities engage in price discrimination.

Table 2.20: Percentage of Institutions with Fee Schedule and/or Price Discrimination

	Fee Schedule	Price Discriminate
MOHP	49.77	7.44
CCO	83.33	50.00
HIO	7.81	4.69
University	50.00	50.00
Private	54.26	27.66
Other	63.64	19.48
Total	49.91	14.90
Urban Governorates	49.07	21.03
Rural lower	43.75	5.00
Urban lower	46.74	18.48
Rural upper	38.18	3.64
Urban Upper	66.67	12.50
Total	49.91	14.90

2.3.4 Types of Services

Table 2.21 shows the number of outpatient clinics by specialty and number of working days per week. On average outpatient clinics are open six days a week. The top five clinics, in terms of the total number of clinics in all facilities, are internal medicine, dentistry, obstetrics and gynecology, general surgery and pediatrics. The bottom five are cancer, fever, neurology, special surgery and psychiatry.

Table 2.21: Number of Outpatient Clinics in each Specialization and Number of Working Days per Week

	Number of days per week							
Specialty	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**Number of Clinics**
Internal Medicine	1	7	15	5	14	332	68	442
Fever	—	1	2	—	—	17	3	23
Ob/Gyn	2	14	26	9	6	188	44	289
Pediatrics	1	4	13	4	5	151	47	225
Orthopedics	6	12	20	3	2	109	28	180
ENT	4	10	38	9	4	130	29	224
Urology	5	8	16	3	1	91	24	148
Opthalmology	1	11	30	5	3	124	20	194
Dermatology	1	8	25	3	5	108	20	170
Chest	2	6	10	4	—	59	6	87
Psychiatry	3	2	12	3	2	29	2	53
Cardiology	2	8	12	1	1	43	7	74
Cancer	5	2	3	2	—	9	1	22
Neurology	5	6	8	—	—	19	3	41
Dentistry	3	6	17	8	10	256	48	348
General Surgery	—	9	18	5	9	161	44	246
Special Surgery	1	9	5	1	1	21	5	43
Family Planning	4	5	7	1	1	127	5	150
Other	—	2	10	3	—	61	10	86

On average, each institution offers approximately 10 areas of specialization with internal medicine, dentistry, obstetrics and gynecology, pediatrics and ENT being the most popular. It is not the case that private clinics are highly specialized or form small complementary specialty groups; rather, they provide scaled down versions of services offered by non-private institutions. Table 2.22 presents the average number of services offered and physicians on staff by affiliation.

Table 2.22: Average Number of Services Offered by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	14.5	10.0	10.0	7.9	9.5
CCO	17.0	14.0	—	—	16.5
HIO	17.0	18.5	—	8.2	8.8
University	16.2	—	—	—	16.2
Private	22.0	11.5	9.6	6.2	9.5
Other	19.5	15.4	11.9	8.2	9.9
Total	15.3	12.1	10.6	7.9	9.7

Tables 2.23 and 2.24 show total and average number of outpatient visits and the distribution of outpatient visits by top and bottom five specialties. Total outpatient visits in the month prior to the survey was 1,219,264 visits. Fifty-four percent of all outpatient visits took place in MOHP, 20 percent in other, 14 percent in HIO, 7 percent in university, 3 percent in private and 2 percent in CCO facilities. The average number of outpatient visits in all institutions is 2,274 per month, but ranges from 1,253 in outpatient facilities to 8,876 in MOHP facilities.

Table 2.23: Total Number of Outpatient Visits in the Last Month by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	362,547	73,108	49,888	169,394	654,937
CCO	24,314	2,207	—	—	26,521
HIO	5,699	12,224	—	153,652	171,575
University	82,652	—	—	—	82,652
Private	245	23,618	14,115	4,617	42,595
Other	21,596	93,982	34,677	90,729	240,984
Total	497,053	205,139	98,680	418,392	1,219,264

Table 2.24: Percentage Distribution of Outpatient Visits in the Last Month by Affiliation

	MOHP	CCO	HIO	University	Private	Other	Total
Total Number	654,937	26,521	171,575	82,652	42,595	240,984	1,219,264
Total Percentage	53.72	2.18	14.07	6.78	3.49	19.76	100.00
Top Five Departments by Number of Outpatient Visits							
Internal Medicine	10.28	0.39	3.37	0.85	1.04	4.68	20.61
Emergency	9.45	0.35	0.58	0.77	0.25	0.54	11.94
Dentistry	5.13	0.08	1.07	0.08	0.29	2.37	9.02
Pediatrics	4.95	0.02	0.24	0.63	0.27	1.84	7.95
Other	3.12	0.34	1.89	0.37	0.03	0.65	6.40
Bottom Five Departments by Number of Outpatient Visits							
Psychiatry	0.47	0.03	0.31	0.33	0.02	0.07	1.23
Cardiology	0.23	0.02	0.10	0.11	0.10	0.28	0.84
Special Surgery	0.11	0.10	0.13	0.22	0.03	0.00	0.59
Neurology	0.03	0.08	0.15	0.00	0.02	0.18	0.46
Cancer	0.00	0.00	0.00	0.34	0.01	0.00	0.35

The top five departments in terms of outpatient visits by specialty are internal medicine, emergency care, dentistry, pediatrics and other. The bottom five are psychiatry, cardiology, special surgery, neurology and cancer. Tables 2.25 and 2.26 present the average number of outpatient visits per facility by affiliation and facility type and by affiliation and region, respectively.

Table 2.25: Average Number of Outpatient Visits in the Last Month by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Average
MOHP	9,424	5,219	6,658	1,472	3,751
CCO	5,473	2,207	—	—	4,820
HIO	2,832	6,120	—	3,418	3,486
University	19,518	—	—	—	19,518
Private	2,479	861	391	174	507
Other	13,255	5,355	1,681	856	1,705
Average	9,648	3,564	1,997	1,511	2,745

Table 2.26: Average Number of Outpatient Visits in the Last Month by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Average
MOHP	6,177	1,063	5,274	1,781	5,675	3,751
CCO	4,820	—	—	—	—	4,820
HIO	4,805	110	3,831	97	2,596	3,486
University	6,840	—	12,614	—	46,005	19,518
Private	749	101	486	133	277	507
Other	1,718	368	3,607	860	1,156	1,705
Average	3,161	828	3,847	1,443	3,128	2,745

The total number of inpatient admissions in the month prior to the survey for 176 inpatient facilities was 53,799: 80 percent in large inpatient facilities, 18 percent in medium inpatient facilities and 2 percent in small inpatient facilities. MOHP facilities had 61 percent of all admissions, Universities 15 percent, private and other 7 percent each, HIOs 6 percent and CCOs 4 percent. MOHP and university facilities had 68 percent and 19 percent respectively of inpatient visits to large inpatient facilities while private facilities had approximately 1 percent. In medium facilities, the MOHP attended to 35 percent of inpatient visits, private to 30 percent and other to 24 percent. Other and private had 63 percent and 31 percent of admissions to small facilities while MOHP facilities dealt with the remaining 6 percent. Therefore the main providers of inpatient care according to facility type are: MOHP and university in large facilities, MOHP and private in medium facilities, and other and private for small facilities.

The average number of admissions for 176 inpatient facilities in the sample is 306 per facility with 781 in large facilities, 126 in medium and 23 in small inpatient facilities. Again, universities have by far the largest number of admissions with an average of 2,080 per month, followed by HIOs with 792, MOHP facilities with 442 and CCOs with 427. Other and private have on average 100 and 72 admissions per facility per month.

Table 2.27: Average Number of Admissions in the Last Month by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	695	137	11	448
CCO	468	264	—	427
HIO	1,170	415	—	792
University	2,080	—	—	2,080
Private	591	90	15	72
Other	320	137	37	100
Total	781	126	23	306

Table 2.28: Average Number of Admissions in the Last Month by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	353	96	648	312	609	442
CCO	427	—	—	—	—	427
HIO	—	576	1,170	—	253	792
University	2,516	—	1,224	—	3,354	2,080
Private	84	—	114	10	37	66
Other	103	9	153	3	105	92
Total	225	112	467	242	358	306

Table 2.29 shows the average number of inpatient nights by affiliation and facility based on responses from 170 inpatient facilities. The overall average is 1,512 per month, but this ranges from 4,231 for large facilities to 518 in medium facilities to 32 for small facilities. As universities have the greatest number of beds and specialists, they also have the highest number of inpatient nights with 14,225, followed by CCO facilities with 5,831, MOHP with 2,085 and private facilities with 321. HIO facilities have the highest average for medium facilities with 2,034 inpatient nights per month, followed by CCO, MOHP, private and other. In small facilities, other facilities have the largest average inpatient nights with 46, then private with 26 and MOHP with only 15 inpatient nights.

Table 2.29: Average Number of Inpatient Nights by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	3,233	698	15	2,085
CCO	10,503	1,159	—	5,831
HIO	4,738	2,034	—	3,386
University	14,225	—	—	14,225
Private	4,137	386	26	321
Other	1,088	285	46	222
Total	4,230	518	32	1,511

On average, 45 percent of the total number of patients in inpatient facilities are treated free of charge. A very high ratio of patients in MOHP facilities—73 percent—are treated free of charge, followed by 72 percent of university patients. HIO facilities have the lowest percentage of patients treated free of charge with 2 percent, followed by private with 9 percent and other with 18 percent. Eighty-six percent of all patients attending MOHP outpatient facilities are treated free of charge as are 88 percent of HIO patients, 26 percent of other and 20 percent of all private outpatients. Non-paying patients attend large inpatient and outpatient facilities, with 68 percent and 61 percent respectively of all patients in these facilities being treated free of charge. The percentage is much lower in medium and small inpatient facilities with 39 percent and 24 percent respectively of all patients not paying. These figures are shown in Table 2.30.

Table 2.30: Average Percentage of Cases Treated Free of Charge to Total Number of Patients by Affiliation and Facility

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	77	69	70	86	81
HIO	17	—	—	—	17
CCO	2	—	—	88	75
University	72	—	—	—	72
Private	—	9	9	20	12
Other	55	16	16	26	23
Total	68	39	24	61	54

In addition to providing treatment to the general public, facilities can also contract for the treatment of patients or be a member of the School Health Insurance program. Table 2.31 shows the percentage of facilities by affiliation and facility type and Table 2.32 facilities by region involved in these programs. On average 32 percent of all facilities have contracts for the treatment of patients, but only 18 percent are involved in the School Health Insurance program. All CCO and university facilities and over half of private facilities have contracts, but only 35 percent of MOHP facilities, 20 percent of HIOs and 18 percent of Others have similar contracting arrangements. Large and medium inpatient facilities have the highest proportion of facilities with contracts. Table 2.32 shows that involvement with the School Health Insurance program is concentrated in large inpatient facilities. All large inpatient HIO and university facilities participate, but only 11.67 percent of outpatient HIOs are enrolled in the program. Among small inpatient facilities 3.7 percent of private facilities are the only facilities involved.

Table 2.31: Percentage of Institutions with Contracts for the Treatment of Patients

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	78.57	30.77	0	24.82	34.88
CCO	100	100	—	—	100
HIO	100	50	—	16.67	20.31
University	100	—	—	—	100
Private	100	71.05	48.15	25	51.06
Other	50	70	21.74	6.42	17.53
Total	82.14	58.62	30	17.37	32.22

Table 2.32: Percentage of Institutions Involved in School Health Insurance Program

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	59.52	26.92	0	23.36	29.77
CCO	60	100	0	0	66.67
HIO	100	50	0	11.67	15.63
University	100	0	0	0	100
Private	0	26.32	3.70	3.57	12.77
Other	50	15	0	0	2.60
Total	62.50	25.29	1.67	11.98	18.25

Tables 2.33 and 2.34 show the average number of patients covered by contract for outpatient visits and inpatient visits. On average 609 patients per facility per month are covered by contract for outpatient visits, while only 80 are covered for inpatient visits. Again, the larger institutions provide the most contract care with large inpatient facilities covering approximately 1,234 patients' outpatient visits and 202 inpatient visits. This contrasts with 364 outpatient visits in medium inpatient facilities, 45 in small inpatient and 533 in outpatient facilities, and 48 inpatient visits in medium facilities and two in small facilities.

Table 2.33: Average Number of Patients per Facility Covered Under Contract for Outpatient Visits

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	935	947	†	515	745
CCO	2,639	933	—	—	2,355
HIO	†	0	—	1,549	1,356
University	1,860	—	—	—	1,860
Private	991	84	57	74	98
Other	†	518	20	55	279
Total	1,234	364	45	533	609

Table 2.34: Average Number of Patients per Facility Covered Under Contract for Inpatient Visits

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	140	12	†	73
CCO	202	164	—	195
HIO	1,170	576	—	416
University	165	—	—	165
Private	236	39	3	32
Other	†	38	0	24
Total	202	48	2	80

2.4 Efficiency Measures

The following section presents various efficiency measures by affiliation type and region. This is the first time such measures have been calculated for the private sector in Egypt and as such provide the first real opportunity to assess the role of the private sector in the provision of health care in Egypt.

The average length of stay was calculated by dividing the number of inpatient nights by the number of admissions. Average lengths of stay appear in Table 2.35 by affiliation and facility type and in Table 2.36 by affiliation and region. The average length of stay, based on responses from 170 facilities, was 4.5 nights. By facility size, average length of stay is 6.7, 4.5 and 1.8 days for large, medium and small facilities respectively. These figures suggest that different types of treatment and surgeries are carried out in different sized facilities, with more specialist care, and therefore more inpatient care, taking place in larger facilities. For example, the average length of stay in large CCO facilities is 14 days and only 4.4 days in medium CCOs. Also, the average number of full-time specialists in large CCOs is 57, but only 18 in medium CCOs. On average, CCO facilities have the longest length of stay with 9.2 days, followed by universities, the MOHP, HIO, private and other facilities. The rankings for full-time specialists are universities with the greatest number, CCOs, the MOHP, HIOs, private clinics, and others.

Table 2.35: Average Length of Stay by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	6.81	6.30	1.60	6.20
CCO	14.04	4.39	—	9.22
HIO	4.56	5.58	—	5.07
University	6.64	—	—	6.64
Private	7.00	4.32	1.74	3.40
Other	3.29	2.10	2.04	2.14
Total	6.72	4.51	1.83	4.51

Table 2.36: Average Length of Stay by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	5.41	6.80	9.87	4.35	3.85	6.20
CCO	9.22	—	—	—	—	9.22
HIO	—*	3.85	4.56	—	7.31	5.07
University	2.66	—	8.72	—	6.47	6.64
Private	2.56	—	2.55	1.31	5.03	3.40
Other	1.92	3.51	3.26	1.33	1.28	2.14
Total	3.37	5.89	6.34	3.65	4.21	4.51

*There are no HIO inpatient facilities in urban governorates in the sample.

Table 2.37 compares the average length of stay obtained in this survey for MOHP, CCO and HIO facilities with other sources. Average length of stay for MOHP and CCO facilities was taken from Health Care Financing in Egypt by Kemprecos and Boutros (1993). The measure for HIO came

directly from HIO offices in 1997. The largest gap between the DDM and other source measure is for MOHP facilities: DDM finds an average length of stay of 6.2 days, while Kemprecos and Boutros calculate the measure to be 4.8 days. This is most likely due to differences in sampling between the two reports. Approximately 54 percent of inpatient facilities in the DDM survey are in urban governorates. The different measures for CCO and HIO facilities are comparable.

Table 2.37: Comparison of Average Length Of Stay Measure (Days)

Affiliation	Other	DDM
MOHP	4.8 (KB)	6.2
CCO	8.3 (KB)	9.2
HIO	4.95 (HIO)	5.1

The monthly occupancy rate, shown in Tables 2.38 and 2.39 was calculated as follows based on the responses of 154 inpatient facilities:

[Number of Inpatient Nights *100]/[Number of Beds * 30]

The overall average occupancy rate reported was 26.07 percent: 40.67 percent in large facilities, 19.76 percent in medium and 18.97 percent in small facilities. By affiliation, HIOs reported the highest occupancy rate with 71.91 percent, followed by 50.15 percent in universities, 43.89 percent in CCO facilities and 33.04 percent in MOH facilities. Other and Private facilities have the lowest occupancy rate with 17.63 percent and 16.97 percent respectively. The highest occupancy rates were reported in medium HIO facilities with 89.32 percent and the large private facility with a rate of approximately 79 percent. The lowest rates were in the small facilities and large and medium other facilities. MOHP facilities had occupancy rates of 38.72 percent, 27.45 percent and 15.69 percent in large, medium and small facilities. The corresponding rates for private facilities were 78.80 percent, 12.93 percent and 22.8 percent.

Table 2.38: Monthly Occupancy Rate by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOH	38.72	27.45	15.69	33.04
CCO	46.68	41.10	—	43.89
HIO	63.20	89.32	—	71.91
University	50.15	—	—	50.15
Private	78.80	14.68	17.08	16.97
Other	14.04	12.93	22.80	17.63
Total	40.67	19.76	18.97	26.07

Table 2.39: Occupancy Rate by Affiliation and Region

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
Urban Governorates	33.16	16.79	17.80	20.54
Rural lower	42.70	25.07	19.54	25.15
Urban lower	44.91	25.87	29.12	36.73
Rural upper	45.51	9.69	3.33	25.39
Urban Upper	38.63	20.50	10.38	24.42
Total	40.67	19.76	18.97	26.07

Table 2.40 presents a comparison of the occupancy rates calculated in this report for MOHP, CCO and HIO facilities with other sources. Again, the greatest difference between sources is for MOHP facilities: Kemprecos and Boutros report an occupancy rate of 49 percent, while DDM finds a much lower rate of 32.6 percent. This may be explained by differences in sampling as discussed when comparing average length of stay measures. In addition, there may be seasonal variations in effect. The DDM survey has reported data for one month to calculate occupancy rates, which will not capture seasonal variation. Finally, there is always the issue of the accuracy of information reported by facilities.

Table 2.40: Comparison of Annual Occupancy Rates (in percentages)

Affiliation	Other	DDM
MOHP	49 (KB)	32.6
CCO	56 (KB)	43.4
HIO	66 (HIO)	70.9

The bed turnover rate in Tables 2.41 and 2.42 measures the average number of patient admissions per bed during a month. The average number of patient admissions per bed is approximately 3.4 for all facilities. The highest turnover rates are found in HIO facilities where the rate is 5.5 and 4.7 for large and medium facilities respectively. The lowest turnover rate is found in large CCO and other facilities. The turnover rates in MOHP and private facilities do not differ widely, 2.8 and 3.0 respectively.

Table 2.41: Bed Turnover Rate by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Total
MOHP	3.18	2.04	3.49	2.82
CCO	1.45	2.81	—	1.72
HIO	5.51	4.74	—	5.13
University	3.37	—	—	3.37
Private	3.38	2.94	3.21	3.05
Other	1.16	5.12	5.30	4.99
Total	3.09	3.17	4.08	3.36

Table 2.42: Bed Turnover Rate by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	2.75	1.18	2.90	2.64	3.80	2.82
CCO	1.72	—	—	—	—	1.72
HIO	—	5.82	5.51	—	3.67	5.13
University	5.57	—	2.79	—	2.34	3.37
Private	4.05	—	3.76	0.56	1.77	3.05
Other	5.73	1.45	6.66	0.75	2.99	4.99
Total	4.12	1.57	3.78	2.17	2.79	3.36

The overall average number of doctors per bed[6] in the sample is 0.77 as shown in Tables 2.43 and 2.44. The ratio of doctors per bed decreases with the size of the facility: 0.95 in medium facilities and 0.5 in large facilities. The highest ratio is 13.6 doctors per bed in small MOHP facilities. This is driven by two facilities, one with 110 physicians and three beds, the other with 134 physicians and two beds. The lowest ratio is in university facilities where there are approximately 0.2 doctors per bed. The ratio of doctors per bed in large MOHP facilities (0.66) is twice that of the large private facility (.33). For medium facilities the difference is marginal: 1.3 physician per bed in MOHP facilities and 1.2 in private facilities. The ratio increases to 2.3 in small private facilities and is 4.4 for other small facilities.

Table 2.43: Average Number of Physicians per Bed by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Total
MOHP	0.56	0.47	0.53
CCO	0.32	1.06	0.45
HIO	0.65	1.62	1.14
University	0.16	-	0.16
Private	0.33	1.02	1.01
Other	0.21	1.37	1.26
Total	0.50	0.95	0.77

Table 2.44: Average Number of Physicians per Bed by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	0.65	0.38	0.67	0.34	0.47	0.53
CCO	0.45	—	—	—	—	0.45
HIO	—	0.18	0.65	—	3.06	1.14
University	0.03	—	0.12	—	0.38	0.16
Private	1.20	0.58	1.47	0.50	0.73	1.01
Other	1.60	0.67	0.43	—	0.95	1.26
Total	1.02	0.42	0.80	0.36	0.70	0.77

The average number of nurses to physicians is 1.75, which includes both full-time and part-time physicians in 534 facilities. By facility type, there are 2.5 nurses in outpatient facilities, 1.9 in large

[6] Small inpatient facilities were omitted as they have on average only five beds per facility.

inpatient, 1.4 in medium inpatient and 0.6 in small inpatient facilities. University facilities (all large inpatient) have the highest ratio of nurses per physician with 6.3 nurses per physician and medium inpatient others have the lowest with only 0.4 nurses per physician. In between, MOHP facilities have on average 3.2, CCO 1.6, HIO 1.1 and private with 0.9 nurses per physician. The average number of nurses to physicians is shown in Tables 2.45 and 2.46.

Table 2.45: Average Number of Nurses per Physician by Affiliation and Facility Type

	Large Inpatient	Medium Inpatient	Small Inpatient	Outpatient	Total
MOHP	1.47	2.29	1.32	4.04	3.19
CCO	1.73	0.95	—	—	1.60
HIO	1.16	2.59	—	0.08	1.13
University	6.26	—	—	—	6.26
Private	3.58	1.33	0.59	0.37	0.86
Other	1.69	0.47	0.35	0.01	1.75
Total	1.87	1.44	0.62	1.11	1.75

Table 2.46: Average Number of Nurses per Physician by Affiliation and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
MOHP	2.34	5.19	2.87	3.04	1.36	3.19
CCO	1.60	—	—	—	—	1.60
HIO	0.81	1.62	1.38	1.78	1.22	1.13
University	13.19	—	5.14	—	1.56	6.26
Private	0.68	0.40	0.37	0.53	1.56	0.86
Other	0.39	0.34	0.75	0.51	0.35	0.42
Total	1.05	3.94	1.73	2.48	1.11	1.75

On average, physicians in 176 facilities, for which data was available, admit six patients per month. Breaking down average admissions by facility type: large facilities had 10.5 admissions per physician, medium had 5.7 and small facilities had 1.6. Universities had by far the highest admissions per physician with 54.5 while others only had 2.11. The admissions per doctor in private institutions, at 4.7, was lower than that in MOHP facilities, with 6.3. CCO facilities, at 4.7, is similar to private facilities, while HIO facilities had the second highest ratio with 12.4, but still much lower than the ratio for universities. Physicians in 179 facilities were responsible for an average of 33 patient days per month. Unsurprisingly, this is much greater in large facilities (55 patient days) and declined with the size of the facility: 37 patient days per physician in medium facilities and four days in small facilities. Physicians in universities have by far the greatest number of patient days with 176 days, next are HIO facilities with 49 days, MOHP facilities with 42 days and private with 29 days. The lowest patient days were in others with five patient days per physician and CCO facilities with 25 days.

2.5 Revenues and Expenditures

This section examines revenues and expenditures of private facilities. All other facilities are omitted due to insufficient response. For example, 86 percent of MOHP facilities and 92 percent of HIO facilities reported either receiving zero funding or did not know the funding received from government grants and subsidies. This is implausible as the main source of funding for these facilities is government grants and subsidies. The price and fee structure in place for the private market is also examined.

2.5.1 Revenue and Expenditure

Table 2.47 shows average revenue by source per annum for private facilities. In general, fees and contracts are the main sources of income for private institutions. Large and medium facilities were not awarded any government grants and did not receive any donations. However, the average donation to small inpatient and outpatient facilities were very small at L.E. 12 and L.E. 208, respectively. The average grant to a small inpatient facility was substantial at L.E. 11,765.

Table 2.47: Average Revenue per Annum by Source and Facility for Private Institutions

	Fees	Contracts	Grants	Donations	Average Total
Large Inpatient	6,350,000	6,350,000	0	0	12,700,000
Medium Inpatient	229,207	61,141	0	0	229,222
Small Inpatient	41,076	10,248	11,765	12	39,730
Outpatient	6,767	527	0	208	6,431
Average Total	195,652	116,265	2,740	71	241,098

Figure 2.1 shows the percentage distribution of revenue by source for private facilities per annum in the sample. Fees account for approximately 62 percent of total revenue earned by sampled private institutions. Contract payments account for the remainder of revenue earned. Grants and donations account for only 1.34 percent of total revenue.

Figure 2.1: Percentage Share of Annual Revenue by Source

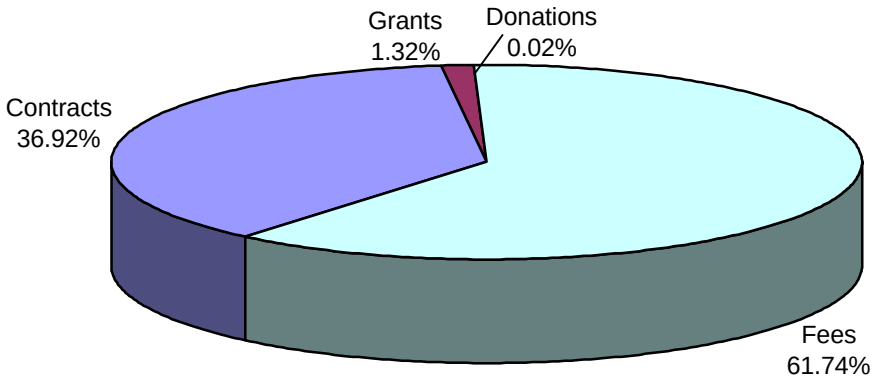


Table 2.48 presents average total revenue and average total revenue per bed by facility for private institutions. On average the large private facility in the sample earns L.E. 72,571 per bed per annum. Medium facilities earn only L.E. 8,839 per bed and small facilities earned L.E. 11,680 per bed per annum. The figure for small inpatient facilities is misleading as these facilities have an average of five beds and so focus on ambulatory care rather than inpatient care.[7]

Table 2.48: Average Revenue and Average Revenue per Bed per Annum by Facility for Private Institutions

	Average Total Revenue	Average Revenue per Bed
Large Inpatient	12,700,000	72,571
Medium Inpatient	229,222	8,839
Small Inpatient	39,730	11,680
Total	340,654	11,321

Expenditures were divided into the following three categories: operating and capital expenditures and salaries. Operating expenditures include rent, utilities, drugs and medical supplies, maintenance, supplies, staff training, insurance, taxes and other miscellaneous items. Capital expenditures consist of land purchases, construction, equipment purchase, vehicles, furniture and other capital purchases.

Table 2.49 shows average operating and capital expenditures reported by private facilities per annum. The operating expenditures per facility is on average L.E. 74,198 per annum. Average operating expenditures by facility are as follows: L.E. 154,579 in medium inpatient, L.E. 35,264 in small inpatient and L.E. 5,304 in outpatient facilities. Corresponding capital expenditures are L.E. 137,215 for medium inpatient, L.E. 39,031 for small inpatient facilities and L.E. 5,873 for outpatient clinics.

Table 2.49: Average Operating and Capital Expenditures by Private Facility per Annum

	Average Operating Expenditure	Average Capital Expenditure
Large Inpatient	—[8]	2,390,000
Medium Inpatient	154,579	137,215
Small Inpatient	35,264	39,031
Outpatient	5,304	5,873
Average Total	74,198	93,856

[7] On average large inpatient have 270 beds per facility and medium inpatient 32 beds per facility.
[8] The large private inpatient facility in the sample did not report operating expenditures.

2.5.2 Prices and Fees

Table 2.50 shows the average cost of a bed per night by class and facility type in a private institution. The average cost varies dramatically with the size of the institution. A first class bed in a small institution costs only L.E. 24 per night, but costs L.E. 270 in a large institution. The average cost per bed in second class accommodation is approximately 60 percent the cost of a first class bed. The difference between the cost of a third class bed in a medium and small institution is slight at L.E. 10 and L.E. 7 per night.

Table 2.50: Average Cost of Private Bed per Night by Bed Class and Facility Type

Bed Class	Large Inpatient	Medium Inpatient	Small Inpatient
First	270	42	24
Second	†	27	15
Third	—	10	7

The average range of fees charged by private facilities increases with the size of the facility. On average, private facilities charge between L.E. 5.63 and L.E. 6.19 for an outpatient visit. This increases to between L.E. 5.85 and L.E. 8.00 in small inpatient and to between L.E. 8.34 and L.E. 12.03 in medium inpatient. The average fee charged in a large inpatient facility varies between L.E. 30 and L.E. 90.

2.6 Quality

This section examines a variety of quality measures. Forty-seven percent of all institutions in the sample have training programs for physicians, and 52 percent have similar programs for nurses. MOHP facilities are more likely to provide training programs for physicians than are other facilities, as 82 percent of MOHP facilities offer physician training programs. Seventy-five percent of universities offer physician training programs, followed by 59 percent of HIO facilities, 50 percent of CCOs, 15 percent of private and 11 percent of others. All CCO facilities offer training programs for nurses, followed by 90 percent of MOHP facilities, 75 percent of universities, 56 percent of HIO facilities, 19 percent of private facilities and 14 percent of others. By region, 68 percent of institutions in rural Lower Egypt and 64 percent in urban Lower Egypt provide training programs for physicians. Sixty percent of institutions in rural Upper Egypt and 32 percent in urban Upper Egypt provide training programs, while only 35 percent of urban governorate facilities offer training programs for their physicians. The percentages are similar for nurses' training programs.

Of the 537 institutions surveyed, 203 have an inpatient section of which almost 84 percent keep inpatient records. All HIOs and three out of four universities keep records. Eighty-eight percent of MOHP facilities, 83 percent of CCOs, 89 percent of private and 69 percent of others keep records. All urban areas have a similar percentage of institutions keeping inpatient records: 84 percent in urban governorates and 83 percent in both urban Upper and Lower Egypt. In rural areas 94 percent of institutions in Lower Egypt and 79 percent in Upper Egypt keep records.

In each institution the interviewee was asked about the most important technical problem(s) facing the institution. One hundred thirty-three institutions stated that they had no problems. However, for the remaining institutions the biggest problem was a shortage of medical equipment.

Fifty-three percent of MOHP facilities, 50 percent of universities, 27 percent of HIOs, 34 percent of others and 20 percent of private institutions had shortages of medical equipment. The next most important problem was that of having no subsidy. This was a problem for 75 percent of universities, 52 percent of others, 33 percent of MOHP facilities, 20 percent of private institutions, 17 percent of CCOs and 6 percent of HIO facilities. The third most important technical problem was a shortage of physicians and laboratory technicians. Twenty-nine percent of MOHP facilities stated they had such a shortage, along with 25 percent of HIO facilities and 20 percent in both private and other facilities. CCOs and universities did not have shortages in such personnel. Seventy-nine percent of institutions in the sample stated that non-functioning medical equipment was a serious technical problem: 27 percent of private institutions, 25 percent of universities, 23 percent of MOHP facilities, 22 percent of HIOs and 12 percent of others.

The interviewee was then asked why in their opinion did patients prefer treatment in their institution over other institutions. The most frequent answer was low cost of treatment. Seventy-nine percent of MOHP and other facilities said that patients prefer their institution because of the low cost of treatment. Sixty-seven percent of CCO, 62 percent of private, 61 percent of HIO facilities and 50 percent of universities also cited low costs as to why patients used their institution. The second reason was proximity to the patient's house. Fifty-seven percent of MOHP facilities, 42 percent of others, 34 percent of private, 33 percent of CCOs and 28 percent of HIOs said that being near to the patient's house was the reason why patients preferred their institution for treatment. The third most popular answer was that the institution rendered good service. Sixty-seven percent of CCO facilities stated this reason for why patients preferred their institution for treatment as did 53 percent of private facilities, 47 percent of others, 28 percent of MOHP and 25 percent of HIO facilities.

Perhaps the most telling quality measures are the observations of the interviewer. After each interview the interviewer answered several questions about the institution: the degree of cleanliness, personnel attitude and uniform, personnel manner when dealing with patients and the ease with which attendants dealt with various services. The interviewer rated the institution as either very good, good, satisfactory or unsatisfactory. He or she was also asked about the average waiting time for a patient in the clinic and whether patients were always given information on how to deal with the institution.

Table 2.51: Interviewer's Observations on Institution (in percentages)

	Very Good	Good	Satisfactory	Unsatisfactory
Degree of Cleanliness	26.07	39.66	30.54	3.72
Personnel Attitude & Personnel	22.91	42.64	33.15	1.30
How Personnel Behave/Deal With Patients	28.49	43.58	27.00	0.93
How Attendants Deal with Various Services	26.26	43.39	28.31	2.05

With regard to the degree of cleanliness, 140 out of 537 institutions were rated as very good, 213 good, 164 satisfactory and 20 unsatisfactory. Thirteen institutions with unsatisfactory cleanliness were MOHP facilities and three were HIO. Eighteen percent, 39 percent, 37 percent and 6 percent of MOHP facilities had very good, good, satisfactory and unsatisfactory cleanliness. In contrast, private facilities scored much better. Fifty-one percent, 33 percent and 16 percent of private facilities were rated as very good, good and satisfactory in terms of cleanliness.

Table 2.52: Interviewers' Perspectives on Degree of Cleanliness of the Institution (in percentages)

	Very Good	Good	Satisfactory	Unsatisfactory	Total
MOHP	18	39	37	6	100
CCO	50	50	0	0	100
HIO	13	50	33	5	100
University	50	25	25	0	100
Private	51	33	16	0	100
Other	27	40	31	3	100
Total	26	40	31	4	100
Region	**Very Good**	**Good**	**Satisfactory**	**Unsatisfactory**	**Total**
Urban Governorates	26	44	28	2	100
Rural lower	20	34	35	11	100
Urban lower	29	40	27	3	100
Rural upper	11	33	49	7	100
Urban Upper	38	38	25	0	100
Total	26	40	31	4	100

Interviewers rated 123 institutions as very good in terms of personnel attitude and uniforms, 229 were good, 178 were satisfactory and seven were unsatisfactory. Looking at the public-private performance, private facilities performed better than MOHP facilities. For example, 41 percent of private facilities were very good, but only 17 percent of MOHP facilities were rated at that level.

Table 2.53: Interviewers' Perspectives on Personnel Attitude and Uniforms (in percentages)

	Very Good	Good	Satisfactory	Unsatisfactory	Total
MOHP	17	39	42	1	100
CCO	50	50	0	0	100
HIO	17	52	30	2	100
University	50	25	25	0	100
Private	41	38	19	1	100
Other	20	47	32	1	100
Total	23	43	33	1	100
Region	**Very Good**	**Good**	**Satisfactory**	**Unsatisfactory**	**Total**
Urban Governorates	20	51	28	1	100
Rural lower	21	26	48	5	100
Urban lower	26	40	34	0	100
Rural upper	11	40	47	2	100
Urban Upper	35	41	24	0	100
Total	23	43	33	1	100

One hundred fifty-three institutions were rated as very good in relation to their behavior and dealings with patients, 234 were good, 145 were satisfactory and 5 were unsatisfactory. Only 19 percent of MOHP facilities were ranked as very good, but 49 percent of private facilities were very good. Eighty-eight percent of private facilities were either very good or good, but only 62 percent of MOHP facilities were in the same category.

Table 2.54: Interviewers' Perspectives on how Personnel Behave or Deal with Patients (in percentages)

	Very Good	Good	Satisfactory	Unsatisfactory	Total
MOHP	19	43	37	1	100
CCO	50	33	17	0	100
HIO	17	47	36	0	100
University	25	50	25	0	100
Private	49	39	10	2	100
Other	34	45	21	0	100
Total	28	44	27	1	100
Region	**Very Good**	**Good**	**Satisfactory**	**Unsatisfactory**	**Total**
Urban Governorates	25	50	25	0	100
Rural Lower	23	33	43	3	100
Urban Lower	29	45	25	1	100
Rural Upper	22	45	33	0	100
Urban Upper	45	35	18	2	100
Total	28	44	27	1	100

The ease with which attendants deal with various services was rated as very good in 141 institutions, good in 233, satisfactory in 152 and unsatisfactory in 11 institutions. Again private facilities outranked MOHP facilities. Forty-nine percent of private facilities were ranked very good in how attendants dealt with various tasks, 39 percent were good and 10 percent were satisfactory. In contrast only 19 percent of MOHP facilities were very good, 43 percent were good, 37 percent were satisfactory and 1 percent were unsatisfactory.

Table 2.55: Average Waiting Time for Patient in Institution (only if there is an outpatient clinic)

Institution	Average Waiting Time (minutes)
MOHP	21.68
HIO	18.33
CCO	19.88
University	38.33
Private	19.74
Other	19.91

Patients at HIO facilities waited the least time, 18 minutes, while patients at CCOs, private and other facilities waited 20 minutes. In MOHP facilities patients waited on average for 22 minutes. Patients at university facilities waited the longest: 38 minutes, over twice as long as HIO facilities.

Table 2.56: Interviewers' Perspectives on whether Patients are always Informed with Instructions of Dealing with Institution

Affiliation	Percentage
MOHP	69.77
CCO	83.33
HIO	75.00
University	75.00
Private	73.40
Other	72.73
Total	72.07
Region	
Urban Governorates	71.50
Rural Lower	66.25
Urban Lower	68.48
Rural Upper	78.18
Urban Upper	78.13
Total	72.07

According to interviewers, institutions did very well in terms of always providing patients with instructions on dealing with the institution. Interviewers felt that CCOs informed patients 83 percent of the time, universities and HIO facilities informed patients 75 percent of the time, Others and Private facilities 73 percent, and MOHP 70 percent of the time.

Table 2.57: Interviewers' Perspectives on How Easily Attendants Move and Deal with Various Services in the Institutions (in percentages)

	Very Good	Good	Satisfactory	Unsatisfactory	Total
MOHP	19	45	32	4	100
CCO	33	50	17	0	100
HIO	16	52	31	2	100
University	25	50	25	0	100
Private	45	39	16	0	100
Other	29	40	30	1	100
Total	26	43	28	2	100
Region	**Very Good**	**Good**	**Satisfactory**	**Unsatisfactory**	**Total**
Urban Governorates	23	49	28	0	100
Rural Lower	23	36	38	4	100
Urban Lower	24	42	32	2	100
Rural Upper	24	45	27	4	100
Urban Upper	40	38	20	3	100
Total	26	43	28	2	100

In all of the quality indicators assessed by the interviewers private facilities performed better than MOHP facilities.

3. Private Clinics

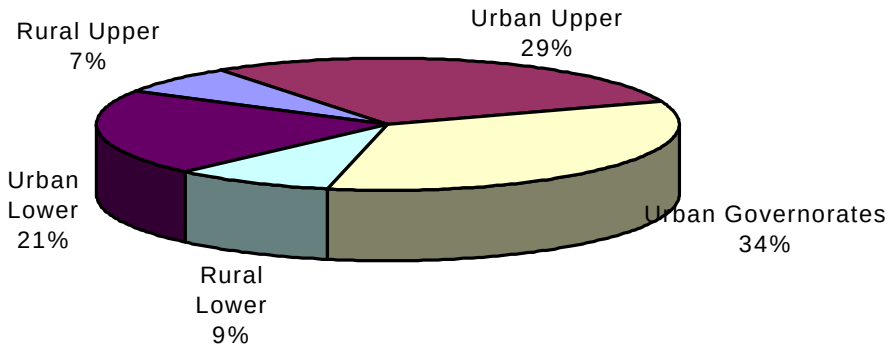
3.1 Introduction

The Provider Survey defines private clinics as single doctor practices. In some cases there may be other physicians and support staff employed by the owner of the clinic. A total of 915 health care providers in private clinics were surveyed, of which 802 were physicians and 113 were dentists. This report examines the characteristics and behavior of the physicians.

3.2 Geographic Distribution

The distribution of the sample of 802 physicians in private clinics is heavily biased towards urban areas: 34 percent are located in urban governorates, 29 percent in urban Upper Egypt and 21 percent in urban Lower Egypt. The rural areas account for 16 percent of the sample, with 9 percent in rural Lower Egypt and 7 percent in rural Upper Egypt.

Figure 3.1: Percentage Distribution of Sample by Region



3.3 Characteristics

This section examines the characteristics of physicians, the clinics they operate and the areas in which they specialize.

3.3.1 Physician Characteristics

Of the physicians sampled in private clinics 92 percent are male and 8 percent are female. Even among the 8 percent of female physicians, the majority is located in urban areas. The highest percentage of female physicians—40 percent—is found in urban governorates followed by 34 percent in urban Upper Egypt, 19 percent in urban Lower Egypt. Only 5 percent practice in rural Lower

Egypt, 2 percent in rural Upper Egypt. This implies that women in rural areas, where it may be particularly uncomfortable for them to be seen by male physicians, have limited access to female physicians in the private sector. The distribution of male physicians by region is identical to that of females.

The average age of physicians in the sample is 43 years: 44 years for males and 41 years for females. The average age of urban physicians is higher than that of their rural counterparts: 45 years for all physicians in urban governorates and 44 in urban Upper and Lower Egypt. The average age drops to 39 in rural Upper and 37 in rural Lower Egypt. As physicians tend to be older in urban areas, they also have more experience. The sampled physicians average 18 years of practice. On average, physicians in urban governorates have 20 years of experience; physicians in urban Upper and Lower Egypt have 18 years of experience. Not surprisingly, physicians working in rural areas have been practicing for a shorter time than their urban-based peers, as they tend to be younger. Physicians in rural Upper Egypt have 12 years of experience, while those in rural Lower Egypt have only 11 years. As expected, females have fewer years of experience than males: 16 years versus 18 years. Twenty-eight physicians have been practicing for 40 years or longer. Only one physician began to practice in the same year as the survey. Table 3.1 shows frequency, average age and years of experience by region and gender.

Table 3.1: Frequency, Percentage Distribution, Average Age and Average Years of Experience by Region and Gender

	Frequency (Number)	Percent	Age (Years)	Years of Experience (Years)
Male				
Urban Governorates	248	31	46	20
Rural Lower	69	9	37	11
Urban Lower	156	19	45	18
Rural Upper	58	7	39	12
Urban Upper	209	26	44	18
Total	740	92	44	18
Female				
Urban Governorates	25	3	44	19
Rural Lower	3	0	30	5
Urban Lower	12	1	41	15
Rural Upper	1	0	44	14
Urban Upper	21	3	39	14
Total	62	8	41	16
Total				
Urban Governorates	273	34	45	20
Rural Lower	72	9	37	11
Urban Lower	168	21	44	18
Rural Upper	59	7	39	12
Urban Upper	230	29	44	18
Total	802	100	43	18

There is a high degree of specialization among the sample as only 14 percent of physicians in private clinics have a Bachelor in Medicine as their highest degree. Thirty-three percent of physicians have a Diploma in Medicine as their highest degree, 34 percent have a Master in Medicine, 2 percent have a Fellowship and 17 percent hold a Ph.D. in Medicine. Table 3.2 presents the percentage distribution of degrees earned by gender and shows that female physicians tend to have fewer qualifications in terms of degrees earned than male physicians.

Table 3.2: Distribution of Degrees Earned by Gender

	Male Percentage	Female Percentage
Bachelor in Medicine	100	100
Diploma in Medicine	42	60
Master in Medicine	47	26
Fellowship	4	0
Ph.D. in Medicine	17	14

Sixty percent of female physicians have a Diploma in Medicine in comparison with 42 percent of males. However, 47 percent of males have a Master's, but only 26 percent of females have an equivalent qualification. No female physician has a fellowship, but 4 percent of male physicians have fellowships. Seventeen percent of male and 14 percent of female physicians have a Ph.D. The physicians employed in rural areas have a lower level of education than their peers in urban areas; only 64 percent had earned more than a Bachelor in Medicine in comparison with 90 percent of physicians employed in urban areas. Universities in Egypt granted all Bachelor degrees. Only two of the physicians working in rural areas had earned their terminal degree from an institution outside Egypt in comparison with 31 physicians in urban areas. The highest degrees earned by physicians are presented in Table 3.3. The location where the degree was conferred is designated as either in Egypt or elsewhere.

Table 3.3: Physician Education—Degrees and Where Earned

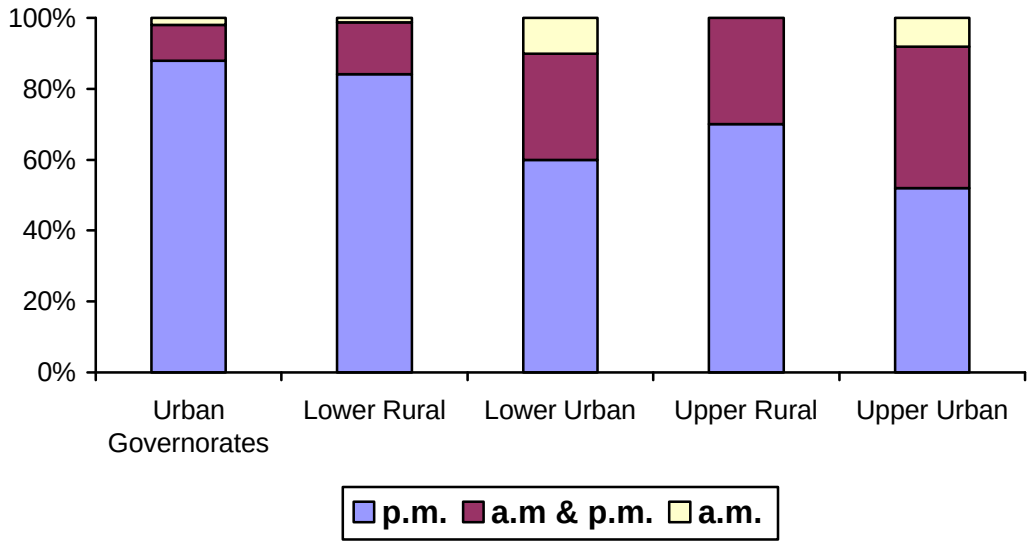
	Total		Urban		Rural	
Highest Degree Earned	Egypt	Elsewhere	Egypt	Elsewhere	Egypt	Elsewhere
Bachelor in Medicine	113	0	66	0	47	0
Diploma in Medicine	261	7	209	7	52	0
Master in Medicine	267	2	240	1	27	1
Fellowship	6	11	6	11	0	0
Ph.D. in Medicine	122	13	119	12	3	1
Total	769	33	640	31	129	2

3.3.2 Clinic Characteristics

From the sample of 802 clinics, 155 reported having between one and nine beds. These beds were used mainly for examination purposes, indicating that private clinics provide a negligible amount of total inpatient care.

Thirty of the clinics are open only in the morning, 569 only in the evening, and 203 in both the morning and evening. No private clinic is open 24 hours a day. Urban clinics in Lower and Upper Egypt provide the greatest flexibility for patients in terms of opening times, followed by urban governorate clinics; rural clinics provide the least choice in opening times. Fifty-six percent of urban area clinics are open in the evening only, 6 percent in the morning only, but 38 percent are open both morning and evening. For urban governorate clinics the percentages are as follows: 88 percent are open in the evening only, 2 percent in the morning only and 10 percent are open both morning and evening. In contrast, 80 percent of rural clinics are opened in the evening only, 1 percent in the morning only and 19 percent are open morning and evening. Figure 3.2 shows the distribution of clinics by opening times.

Figure 3.2: Percentage Distribution of Clinics by Opening Times



There are 1,445 staff jobs[9] in the sampled private clinics: 902 full-time and 543 part-time. Table 3.4 shows the total number of staff jobs by region. Forty-three clinics, 5 percent of the sample, are solo providers; that is, there are no workers other than the physician employed in the clinic. For the remaining 95 percent of clinics, there are on average 1.9 staff employed per clinic. Sixty-one percent of staff jobs are in non-medical fields, with cleaners and secretaries or clerks making up the largest proportion of non-medical workers. Nurses account for 49 percent of medical staff jobs, followed by anesthesiologists at 23 percent and assistant physicians at 15 percent. Urban-based clinics are marginally more likely to have staff than are rural-based clinics. In the sample, all of these medical staff jobs tend to be concentrated in urban areas or urban governorates. For example, 39 percent of nurses are located in urban governorates, 30 percent in urban Upper Egypt, and 17 percent in urban Lower Egypt, and 9 percent in rural Upper Egypt and 5 percent in rural Lower Egypt. Similarly, 37 percent of anesthesiologists are located in urban governorates, 42 percent in urban Lower Egypt, and 22 percent in urban Upper Egypt, whereas 13 percent of anesthesiologists are in rural Lower Egypt and 6 percent in rural Upper Egypt.

[9] Staff jobs are any jobs, both medical and non-medical, other than the owner of the clinic.

Table 3.4: Total Number of Staff by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Cleaners	141	33	106	35	179	494
Secretaries	175	20	65	5	75	340
Nurses	108	14	48	25	82	277
Anesthesiologists	37	13	42	8	29	129
Asst Physicians	29	9	26	5	15	84
Guards	23	1	4	0	2	30
Physical Therapists	20	1	1	1	4	27
Lab Technicians	20	0	0	2	1	23
Radiologists	19	0	1	0	1	21
Others	20	0	0	0	0	20
Total	592	91	293	81	388	1,445

3.3.3 Areas of Specialization

Approximately 88 percent of the sample reported having some area of specialization other than general practice and an equal number of physicians reported multiple areas of specialization. On average each physician has 1.12 areas of specialization. It must be remembered that these are the areas of specialization reported by physicians and need not imply that they have an advanced degree in that area. The most common area of specialization reported is surgery, which accounts for over 18 percent of all physicians sampled. This is followed by obstetrics and gynecology with 15 percent and internal medicine with 14 percent. The least common areas of specialization are neurology, with approximately 1 percent of physicians, psychiatry with 2 percent and fever with 3 percent. The percentage distribution of the top and bottom five areas of specialization is presented in Table 3.5.

Table 3.5: Percentage Distribution of Top and Bottom 5 Areas of Specialization

Specialization	Percentage
General Practice v. Specialists	
General Practice	12
Specialists	88
Top 5 Specializations	
Surgery	16
Ob/Gyn	14
Internal Medicine	14
General Practice	12
Pediatrics	10
Bottom 5 Specializations	
Chest	4
Orthopedics	3
Fever	3
Psychiatry	2
Neurology	1

The areas of specialization by gender are presented in Table 3.6 and by region in Table 3.7. Female physicians are more likely to specialize in obstetrics and gynecology than men, with 45 percent of women in the field in comparison with 13 percent of men. The other main areas where female physicians specialize are pediatrics (18 percent), general practice (13 percent) and dermatology (10 percent). However, there were no female cardiologists, ENT specialists, orthopedists, chest specialists or surgeons in the sample. On the other hand, male physicians are more likely to specialize in surgery with 19 percent in that area in comparison with approximately 3 percent of female physicians. The other top areas of specialization for male physicians are internal medicine (16 percent), general practice (14 percent) and obstetrics and gynecology (13 percent), the latter two also being popular with female physicians.

Table 3.6: Areas of Specialization by Gender

	Male	Female	Total	Percentage of Total
Surgeon	143	2	145	16.1
Ob/Gyn	99	28	127	14.1
Internal Medicine	119	4	123	13.7
General Practice	102	8	110	12.2
Pediatrics	79	11	90	10.0
Cardiology	41	0	41	4.6
ENT	41	0	41	4.6
Ophthalmology	35	5	40	4.4
Dermatology	29	6	35	3.9
Other	30	4	34	3.8
Chest	33	0	33	3.7
Orthopedics	28	0	28	3.1
Fever	27	0	27	3.0
Psychiatry	16	0	16	1.8
Neurology	9	1	10	1.1
Total	831	69	900	100

The majority of areas of specialization are concentrated in urban governorates (37 percent of all specialties) and in the urban areas of Egypt (27 percent in Upper Egypt and 21 percent in Lower Egypt). For some specialties, there is no specialist in rural regions in the sample. For example, there is neither a cardiologist, an ophthalmologist, nor an orthopedist in rural Lower Egypt, and in rural Upper Egypt there is no neurologist, dermatologist or psychiatrist. In contrast, the urban governorates and urban regions have access to all areas of specialization. Even for the most common areas of specialization, the regional maldistribution in the sample is very apparent. For example, 27 percent of all surgeons are in urban governorates, 57 percent are in urban areas of Lower and Upper Egypt, but only 17 percent are in rural areas of Lower and Upper Egypt. Similarly 38 percent of obstetricians and gynecologists are in urban governorates, 45 percent in urban areas and 18 percent in rural areas. Neurology, the least popular specialty (1 percent of specialists), provides limited access especially in rural areas: 20 percent in urban governorates, 70 percent in urban Upper and Lower Egypt, but only 10 percent in rural Lower Egypt and none in rural Upper Egypt. Psychiatrists are regionally distributed as follows: 31.3 percent in urban governorates, 63 percent in urban areas of Lower and

Upper Egypt and 6 percent in rural areas of Lower and Upper Egypt. General practice is the only specialty where there are more physicians in rural Egypt than in urban governorates or urban Egypt: 41 percent in rural areas versus 39 percent in urban areas of Lower and Upper Egypt and 19 percent in urban governorates.

Table 3.7: Areas of Specialization by Region

	Urban Governorates		Rural Lower		Urban Lower		Rural Upper		Urban Upper		
	Number	%	Number	%	Number	%	Number	%	Number	%	Total Number
Surgery	39	26.9	7	4.8	30	20.7	17	11.7	52	40.9	145
Ob/Gyn	48	37.8	16	12.6	28	22.0	6	4.7	29	23.6	127
Internal Medicine	56	45.5	9	7.3	27	22.0	4	3.3	27	19.1	123
General Practice	21	19.1	28	25.5	23	20.9	18	16.4	20	18.2	110
Pediatrics	37	41.1	5	5.6	23	25.6	7	7.8	18	20.0	90
Cardiology	17	41.5	0	0.0	9	22.0	1	2.4	14	34.1	41
ENT	16	39.0	1	2.4	8	19.5	1	2.4	15	36.6	41
Ophthalmology	18	45.0	0	0.0	6	15.0	2	5.0	14	35.0	40
Dermatology	12	34.3	3	8.6	3	8.6	0	0.0	17	48.6	35
Other	14	41.2	1	2.9	2	5.9	2	5.9	15	44.1	34
Chest	9	27.3	4	12.1	7	21.2	1	3.0	12	36.4	33
Orthopedics	8	28.6	0	0.0	9	32.1	1	3.6	10	35.7	28
Fever	13	48.1	2	7.4	3	11.1	4	14.8	5	18.5	27
Psychiatry	5	31.3	1	6.3	1	6.3	0	0.0	9	56.3	16
Neurology	2	20.0	1	10.0	4	40.0	0	0.0	3	30.0	10
Total	370	41.1	84	9.3	214	23.8	68	7.6	277	30.8	900

The most popular multiple areas of specialization are cardiology and internal medicine (22 physicians), internal medicine and fever (eight) and cardiology and chest (five). Four physicians with multiple specialties have three areas of specialization: one with internal medicine, cardiology and chest specialties; one with internal medicine, pediatrics and other; one with internal medicine, fever and other; and one with general practice, pediatrics and obstetrics and gynecology.

3.4 Services Offered

Table 3.8 shows the services offered by physicians in private clinics by region. The total column shows the percentage of all clinics offering particular services. The clinical services offered can be separated into preventive, diagnostic, and curative services. Approximately 17 percent offer preventive services such as routine check-ups and 4 percent offer immunizations and well baby care. Fewer clinics offer such services in rural areas. Diagnostic services such as radiology, ultrasound and laboratory tests are offered in approximately 5 percent of clinics and are less common in the rural areas. The most common curative services are patient examinations, surgeries, first aid and injections.

Surgeries are offered at nearly 16 percent of the urban clinics and at 25 percent of the total sample. First aid was offered at nearly a quarter of clinics and patient examinations are almost universally offered.

Table 3.8: Percentage of Private Clinics Offering Different Services by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Percentage Of All Clinics Providing Service
Patient Examinations	98.9	100.0	100.0	99.0	100.0	99.5
First Aid	18.7	50.0	30.4	23.5	44.1	27.2
Surgeries	14.7	27.8	31.0	28.3	28.8	24.2
Ante-Natal Care	17.2	27.8	17.9	10.0	11.9	15.8
Routine Check-up	14.3	15.3	17.9	15.2	11.9	15.2
Other	7.7	13.9	16.1	10.4	1.7	10.3
Giving Injections	3.7	15.3	14.9	10.9	13.6	9.9
Delivery	7.0	20.8	8.9	9.6	11.9	9.7
Lab Tests	5.9	8.3	6.5	7.4	8.5	6.9
Ultrasound	5.1	6.9	6.5	5.7	1.7	5.5
Well Baby Care	5.9	4.2	6.5	3.5	3.4	5.0
Immunization	5.1	5.6	6.5	2.6	1.7	4.5
Radiology	2.2	1.4	6.0	4.3	0.0	3.4

Table 3.9 shows the average number of patients seen per month in private clinics as reported by physicians by treatment and region. The denominator in each case is the number of physicians who provide that particular service. For example, physicians in urban governorates report performing an average of 70 patient examinations and 21 routine check-ups per month. However, the number of patient examinations performed per month in Upper Egypt is significantly higher than other regions: 90 patient examinations in rural areas of Upper Egypt and 85 in urban areas of Upper Egypt. Overall, physicians report seeing an average of 76 patients per month for a patient examination and 16 for a routine check-up. According to physicians, patient examinations, injections and ultrasound are the most common reasons patients attend a physician at a private clinic. Surprisingly, well baby care and ultrasound are some of the least common services offered by physicians, even though they are among the most regularly demanded services sought out by patients seeking treatment. The least common treatments across all regions are delivery, surgeries, antenatal care, lab tests, and first aid.

Table 3.9: Average Number of Patients Seen per Month in Private Clinic by Treatment and Region

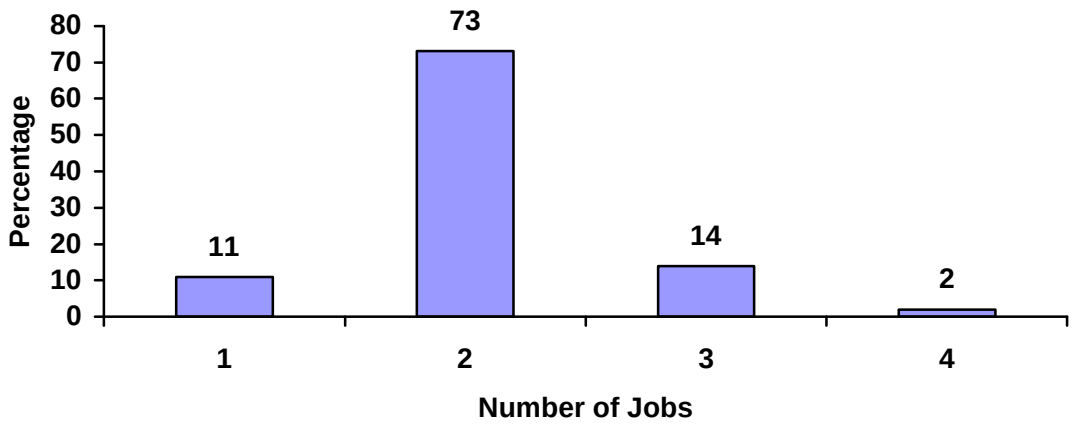
	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Patient Examinations	70	62	72	90	85	76
Giving Injections	37	68	49	27	61	52
Ultrasound	23	33	68	200	31	40
Well Baby Care	17	23	22	8	51	25
Radiology	22	10	21	0	21	21
Immunization	27	9	11	15	9	17
Lab Tests	18	7	31	23	7	17
Routine Check-up	21	11	16	7	12	16
Ante-Natal Care	12	12	19	10	16	14
First Aid	19	10	6	8	8	10
Surgeries	5	3	6	7	5	5
Delivery	2	3	8	2	3	4

3.5 Multiple Employment

Eight hundred and two physicians in private clinics were interviewed for the Private Clinic survey. Eleven percent of physicians work only in the private clinic; 89 percent have multiple jobs. Seventy-three percent of physicians have two jobs, that is, they have another job outside of their private clinic, 14 percent have three jobs and 2 percent have four jobs. This implies that 1,702 is the total number of jobs for the 802 physicians surveyed, 900 of these being extra jobs, yielding an average of two jobs per physician. Table 3.10 shows the number of jobs by specialty and job, and Figure 3.3 shows the physician distribution by number of jobs.

Survey results show that urban-based physicians are more likely to work only in the private clinic than those based in rural areas (12 percent of urban-based physicians reported working only in their private clinic whereas only 3 percent of rural physicians did so). Rural-based physicians are more likely to have a second job (85 percent of rural-based physicians, in comparison with 71 percent of urban-based physicians). However, there is not much difference between urban and rural physicians in the likelihood of having a third or fourth job. Fifteen percent of urban and urban governorate physicians and 11 percent of rural physicians have a third job. Two percent of urban and urban governorate physicians and 1 percent of rural physicians have a fourth job.

Figure 3.3: Physician Distribution by Number of Jobs



The likelihood of having multiple employment does not appear to be linked with the area of specialization. With the exception of ophthalmology, 83 percent to 100 percent of all physicians with declared areas of specialization have a second job. Seventy-seven percent of ophthalmologists have a second job, which most likely reflects the type of patient care required in that area.

Table 3.10: Multiple Physician Job-Holding for Different Specialties

	Private Clinic	Second Job	Third Job	Fourth Job	Total	Average Number of Jobs per Physician
Surgery	140	131	28	4	303	2.16
Ob/Gyn	125	113	18	1	257	2.06
General Practice	103	87	3	—	193	1.87
Internal Medicine	89	77	13	—	179	2.01
Pediatrics	85	76	16	—	177	2.08
ENT	40	37	7	5	89	2.23
Cardiology	39	32	11	4	86	2.21
Dermatology	35	33	10	—	78	2.23
Ophthalmology	39	30	2	—	71	1.82
Orthopedics	28	27	8	1	64	2.29
Chest	29	27	5	1	62	2.14
Psychiatry	15	15	4	—	34	2.27
Other	17	15	1	1	34	2.00
Fever	12	12	2	—	26	2.17
Neurology	6	5	1	—	12	2.00
Total	802	717	129	17	1,665	2.08

The percentage distribution by affiliation of second, third and fourth jobs are given in Table 3.11. Overall, MOHP facilities employ 53 percent of physicians with multiple jobs, followed by universities with 14 percent, other facilities with 12 percent, HIOs with 11 percent, private facilities with 9 percent and CCOs with 1 percent. Government and public agencies are the main employers of private clinic physicians with multiple jobs, with the private sector providing a very small proportion of multiple jobs. Although MOHP is the main employer of physicians with second jobs, private facilities employ 34 percent of those with third jobs and 47 percent of those with fourth jobs.

Table 3.11: Percentage Distribution of Other Jobs by Affiliation

	Second Job	Third Job	Fourth Job	Percentage of Total Other Jobs by Affiliation
MOHP	61	9	2	53
CCO	1	3	0	1
HIO	8	27	23	11
University	15	9	12	14
Private	4	34	47	9
Other	11	18	6	12
Percentage of Other Jobs that are nth jobs	83	15	2	100

Table 3.12 shows that 83 percent of multiple jobs held by physicians are in urban areas: 33 percent in urban governorates and 19 percent and 31 percent in urban Lower and Upper Egypt. Nine percent of multiple jobs are in rural Lower Egypt and 7 percent in rural Upper Egypt. There was no public sector, CCO, co-operative, syndicate/professional group or other extra jobs in rural Upper Egypt. All but three of university jobs were in urban areas.

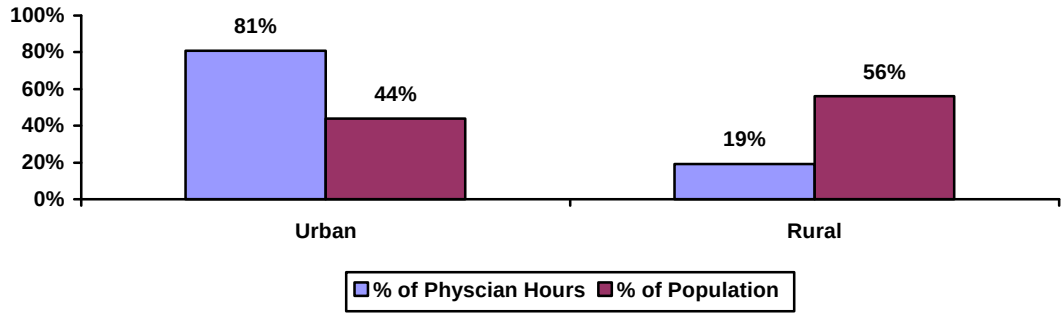
Table 3.12: Percentage Distribution of Other Jobs by Region

	Second Job	Third Job	Fourth Job	Percentage of Total Other Jobs by Region
Urban Governorates	27	5	1	33
Rural Lower	8	1	0	9
Urban Lower	17	2	0	19
Rural Upper	7	1	0	7
Urban Upper	25	5	1	31
Percentage of Other Jobs that are nth jobs	83	15	2	100

3.6 Work Time and Patients Attended

The physicians in the sample work a total of 40.458 hours per week in all their jobs or an average of 9.2 hours per day. Thirty percent of total physician working hours are spent in urban governorates, followed by 29 percent and 22 percent in urban Upper and Lower Egypt, respectively. Physicians spend 11 percent of total working hours in rural Upper Egypt and 8 percent in rural Lower Egypt. However, 56 percent of the Egyptian population[10] live in rural areas, suggesting that there are access problems to physicians, as individuals located in rural areas are getting only 19 percent of total physician time. On the other hand, urban residents, accounting for 44 percent of the population, are getting 81 percent of total physician working hours.

Figure 3.4: Distribution of Physician Hours and Population by Region



Surgeons, general practitioners, obstetricians, and gynecologists work more hours per week than any other specialty. To see how physicians' time in the sample is spent, a comparison is made in Table 3.13 between the hours worked in urban governorates and urban areas and time spent in rural areas. On average, hours worked in rural regions is only 25 percent of hours worked in urban regions. Twenty percent of the total hours worked by surgeons, and obstetricians and gynecologists are spent in rural areas, while 80 percent are spent in urban areas. This contrasts with general practitioners in rural areas of Lower and Upper Egypt, who work approximately 90 percent of the hours worked by urban-based general practitioners. At the lower end of the scale, there are no neurologists in rural areas in the sample, and the total hours worked by cardiologists in rural regions is approximately 3 percent of hours worked by urban-based cardiologists. In summary, rural residents have limited access to all areas of specialization, except general practice.

[10] Fifty-six percent of the total population of Egypt lives in rural areas. We assume that the same ratio holds in the governorates of Upper and Lower Egypt sampled.

Table 3.13: Total Hours Worked by Area of Specialization and Region and Comparison of Hours Worked in Rural Regions with Urban Regions[11]

	Urban Governorates and Urban Areas(hours)	Rural Areas (hours)	Percentage of Hours Worked in Rural Regions to Urban Regions
Surgery	6,089	1,401	23.01
Ob/Gyn	4,826	1,286	26.65
General Practice	2,862	2,570	89.80
Internal Medicine	3,689	740	20.06
Pediatrics	3,802	603	15.86
ENT	1,775	124	6.99
Cardiology	1,822	54	2.96
Dermatology	1,462	174	11.90
Ophthalmology	1,319	369	27.98
Orthopedics	1,374	62	4.51
Chest	1,167	342	29.31
Psychiatry	723	72	9.96
Other	751	38	5.06
Fever	549	138	25.14
Neurology	275	0	0.00
Total	32,485	7,973	24.54

Approximately 43 percent of the total hours worked are in the private sector, which includes hours worked in the physician's private clinic and any other jobs he or she has in the private sector. This is followed closely by 36 percent in the Ministry of Health and Population. Universities and HIO facilities account for 7 percent and 6 percent of total working hours, CCO facilities for 0.3 percent.

The total number of cases attended to by physicians in all jobs is 86,615 per week. Physicians in private clinics see 19 percent of cases although they account for 42 percent of total hours worked. In their capacity as employees of the MOHP, they attend to 49 percent of total cases per week. Those working with the HIO attend to 14 percent of total cases, but only account for 6 percent of hours worked. Therefore, the distribution of hours worked and cases attended by affiliation are not uniformly distributed. This suggests that physicians tend to see fewer patients per week when working in their private clinic than when working for another affiliation. The number of patients attended to in rural regions is approximately a quarter of those seen in urban regions. This is in line with hours spent in rural regions being approximately a quarter of those spent in urban regions. Again, however, over half the population in Upper and Lower Egypt lives in rural areas.

Table 3.14 presents the average number of hours worked per week by area of specialization and average total hours worked per week and per day by area of specialization. On average, physicians work 9.2 hours per day and 50 hours per week. Fever specialists, surgeons and psychiatrists have the longest working week, working on average 57, 54, and 53 hours per week, respectively, while ophthalmologists work on average 43 hours per week and neurologist and those with "other" specialties work 46 hours per week. Table 3.15 presents average hours worked per week by job for the various affiliations and regions.

[11] The results in this table are driven by the distribution of physicians across urban and rural regions and therefore may not be representative at the level of specialization.

Table 3.14: Average Hours Worked per Day and per Week by Specialty

Specialty	Private Clinic	Second Job	Third Job	Fourth Job	Hours per Day	Hours per Week
Fever	24.5	31.7	6.5	—	10.3	57.3
Surgeon	20.4	33.2	9.6	7	9.5	53.5
Psychiatry	26.6	23.6	10.5	—	10.4	53
General Practice	22.1	35.8	13.3	—	9.3	52.7
Chest	21.4	31.4	6.8	6	9.3	52
Pediatrics	22.2	30.1	14.3	—	9.2	51.8
Orthopedics	16.3	32.0	12.5	15	10	51.3
Internal Medicine	21.2	31.1	11.6	—	9.2	49.8
Ob/Gyn	19.9	30.6	9.2	6	9.1	48.9
Cardiology	20.0	30.6	7.1	9.5	9.5	48.1
ENT	18.8	28.1	11.3	5.4	9.4	47.5
Dermatology	19.3	25.2	13.1	—	8.9	46.7
Other	18.0	31.8	0.0	6	8.6	46.4
Neurology	17.2	32.4	10.0	—	8.7	45.8
Ophthalmology	20.5	29.2	5.0	—	8.2	43.3
Total	21	31	10	7	9.3	50.4

Table 3.15: Average Hours Worked per Week by Job and Region

	Private Clinic	Second Job	Third Job	Fourth Job
Urban Governorates	18	29	12	8
Rural Lower	25	35	15	12
Urban Lower	22	32	9	15
Rural Upper	21	35	12	—
Urban Upper	22	30	9	5
Total	21	31	10	7
MOHP	—	33	17	4
CCO	—	22	6	—
HIO	—	36	7	10
University	—	25	13	6
Private	—	13	12	7
Other	—	34	9	12
Total	—	31	10	7

For those physicians who only work in the private clinic (11 percent of the sample), the average number of hours worked per week was 23. When the total hours worked increased with the addition of a second job, the hours worked in the private clinic decreased: those who reported two jobs (73 percent) worked 21 hours in the private clinic. Time spent in the private clinic continued to decrease as the number of jobs outside the private clinic increased: those with three jobs (14 percent of the sample) reported working 18 hours per week in the clinic while those with four jobs (2 percent) worked 14 hours per week in the private clinic. The distribution of hours worked per week by number of jobs is given in Table 3.16.

Table 3.16: Average Number of Hours Worked per Week by Job

	Private Clinic	Second Job	Third Job	Fourth Job
Private Clinic	23	—	—	—
Two Jobs	21	32	—	—
Three Jobs	18	27	11	—
Four Jobs	14	24	9	7

Physicians with multiple employment spend the greatest proportion of their working week in the second job, indicating that physicians consider this their primary source of employment. The government and public sector are the main employers of physicians with second jobs, employing 70 percent of physicians with second jobs. Physicians employed by the MOHP are required to work from 8 a.m. to 2 p.m., six days per week, after which they may operate their own clinics. However, there is enough anecdotal evidence to state that physicians do not actually devote six hours per day to the MOHP, either by not turning up or by working at private clinics during MOHP time. This is reflected in the calculated hours worked per week in the second job. Physicians with only two jobs report working on average 32 hours per week in their second job. This figure drops to 27 hours per week if they have three jobs and to 24 hours per week if they have four jobs.

There are two important results here. First, the number of hours worked in the private clinic falls as the number of jobs a physician has increases, indicating that the physician substitutes hours away from the private clinic to other employment. Econometric analysis of the data also found that an increase in hours spent in the private clinic reduces the number of hours spent in the government job. Second, as the number of jobs increases, the amount of time spent on the second job, or government job, decreases. This potentially reduces the access of low-income people to medical care, as they cannot afford to seek care in the private sector. This has important policy implications, as multiple employment is not increasing the access of the population to medical care. Therefore, it may be necessary for the government to force physicians to choose between the private and/or public sector employment by not allowing physicians to have multiple employment. In this case it would be necessary for the government to remunerate physicians so that they have an incentive to choose government or public sector employment.

Physicians work on average four hours per day in their private clinic. They work five days per week to give an average working week of 21 hours. In contrast, physicians work six hours per day, six days per week in the second job to give an average working week of 31 hours. Table 3.17 shows the corresponding measures for physicians with three and four jobs.

Table 3.17: Summary of Hours and Days Worked by Job

	Average Hours per Day	Average Days per Week	Average Hours Worked per Week
Private Clinic	3.76	5.37	20.66
Second Job	5.60	5.53	31.26
Third Job	2.79	3.62	10.49
Fourth Job	3.00	2.71	7.41

The distribution by region is approximately uniform. Table 3.18 shows the average number of hours per day and average number of days per week worked by region and job, respectively.

Table 3.18: Average Number of Hours per Day and Days per Week Worked by Region and Job

	Average Number of Hours per Day Worked by Region and Job				
	Private Clinic	**Second Job**	**Third Job**	**Fourth Job**	**Total**
Urban Governorates	3.28	5.48	3	4.17	8.5
Rural Lower	4.28	6.29	3.22	2	10.8
Urban Lower	4.08	5.61	2.24	3	9.3
Rural Upper	3.73	5.95	3.17	—	9.8
Urban Upper	3.93	5.40	2.70	2.33	9.5
Total	3.76	5.60	2.79	3	9.3
	Average Number of Days per Week Worked by Region and Job				
	Private Clinic	**Second Job**	**Third Job**	**Fourth Job**	
Urban Governorates	5.24	5.21	3.85	2.33	—
Rural Lower	5.65	5.79	5.11	6	—
Urban Lower	5.41	5.78	3.38	5	—
Rural Upper	5.47	5.82	3.67	—	—
Urban Upper	5.39	5.56	3.20	2.33	—
Total	5.37	5.53	3.62	2.71	—

The average number of patients seen per week differs dramatically by job, as seen in Table 3.19. In private clinics 21 patients per week are seen on average. This increases to 96 patients in the second job, falls to 40 in the third job and to 27 in the fourth job. Again, caution must be exercised when evaluating the average number of private clinic visits. Using data from the Provider Survey, the average number of visits per capita is 1.09 visits per year. However, data from the Household Survey[12], conducted at the same time as the Provider Survey, yield an estimate of 1.92 visits per capita per year. This implies that doctors may underestimate the number of patients seen by approximately 76 percent.

[12] The Egypt Household Health Care Use and Expenditure Survey was carried out concurrently with the Provider Survey in 1994-1995.

Table 3.19: Average Number of Patients Seen per Week by Specialty and Job

	Private Clinic	Second Job	Third Job	Fourth Job	Total Average Number of Patients Seen
Cardiology	27	113	24	27	129
Chest	24	101	20	20	119
Dermatology	20	136	28	—	148
ENT	20	80	62	7	98
Fever	23	115	30	—	134
General Practice	20	124	141	—	117
Internal Medicine	21	105	54	—	112
Neurology	20	68	14	—	79
Ob/Gyn	20	62	16	6	75
Ophthalmology	25	132	104	—	125
Orthopedics	13	151	86	50	185
Other	25	58	4	3	71
Pediatrics	33	107	59	—	133
Psychiatry	18	27	27	—	48
Surgery	15	76	20	61	88
Total	21	96	40	27	108

Physicians tend to see more patients per week in rural areas. For example, 29 patients are seen on average in private clinics in rural Upper Egypt, while only 19 are seen in urban governorates and 23 are seen in urban Upper Egypt. The rankings are similar for the other jobs. Table 3.20 shows the average number of patients seen per week by region and job. Although more patients are attended to in rural areas, they are not seen in the physician's private clinic as shown in Table 3.20. For example, a physician in a private clinic in rural Lower Egypt sees 17 patients, but 97 are seen in the second job, 60 in the third job and 200 in the fourth job. Similarly, in rural Upper Egypt 30 patients are seen per week in the physician's private clinic, but 138 are attended to in the second job. With the exception of rural Lower Egypt, the majority of patients in each region are seen in the second job.

Table 3.20: Average Number of Patients Seen per Week by Region

	Private Clinic	Second Job	Third Job	Fourth Job	Total Average Number of Patients Seen
Urban Governorates	20	88	51	22	98
Rural Lower	17	97	60	200	117
Urban Lower	19	84	22	50	90
Rural Upper	30	138	36	—	162
Urban Upper	24	100	33	10	117
Total	21	96	40	27	108

Table 3.21 shows the number of patients seen in the private sector according by job (first, second, etc). The main result is that the number of patients seen in the physician's own private clinic decreases if the physician has other employment in the private sector. The average number of patients seen in the private clinic per week is 20 patients, but if the physician has only one job he sees on average 25 patients per week. With two jobs, the second in the private sector, the physician sees on average 21 patients in the private clinic. This figure falls to 20 if he has three or four jobs, all in the private sector.

Table 3.21: Average Number of Patients Seen in Private Clinics by Job

	Private Clinic	Job Two	Job Three	Job Four
Private Clinic Only	25	—	—	—
Two Jobs only	21	21	—	—
Three Jobs only	20	27	16	—
Four Jobs	20	25	3	13

The average number of patients seen per hour by specialty and job is shown in Table 3.22. On average physicians see one patient per hour in their private clinic. This increases to 3.2 patients per hour in the second job, 4.4 in the third job and 2.9 in the fourth job. An extreme example is that of general practitioners who see one patient per hour in their private clinic, approximately four in the second job and 12 in their third job.

Table 3.22: Average Number of Patients Seen per Hour by Specialty and Job

	Private Clinic	Second Job	Third Job	Fourth Job	Total
Cardiology	1.3	3.4	4.6	2.5	5.5
Chest	1.4	3.0	3.2	3.3	4.7
Dermatology	1.5	6.3	2.9	—	7.7
ENT	1.1	2.9	4.4	1.3	4.5
Fever	1.0	3.6	8.8	—	5.8
General Practice	1.0	4.1	11.7	—	4.4
Internal Medicine	1.1	3.4	5.1	—	4.5
Neurology	1.8	2.5	1.4	—	4.1
Ob/Gyn	0.9	2.1	3.0	1.0	3.1
Ophthalmology	1.2	4.7	17.7	—	5.5
Orthopedics	0.8	4.6	5.9	3.3	7.1
Other	1.5	1.7	—	0.5	2.9
Pediatrics	1.4	3.7	4.5	—	5.3
Psychiatry	0.9	1.3	4.3	—	2.7
Surgeon	0.8	2.3	3.1	6.1	3.6
Total	1.0	3.2	4.4	2.9	4.5

Table 3.23 shows the average number of patients seen per hour by region and job and by affiliation and job. On average physicians see two patients per hour. In private clinics physicians see one patient per hour regardless of region. This increases to two patients in the second job, four in the third and falls to three in the fourth job. In general, the number of patients seen per hour increases with the job number.

Table 3.23: Average Number of Patients Seen per Hour by Affiliation and Region

	Average Number of Patients Seen per Hour by Affiliation and Job				
	Private Clinic	**Second Job**	**Third Job**	**Fourth Job**	**Total**
Private Clinic	1	—	—	—	1
MOHP	—	3.27	2.96	0.57	3.11
CCO	—	1.85	6.41	—	3.17
HIO	—	5.95	8.21	8.11	6.95
University	—	1.81	2.73	3.33	1.96
Private	—	1.98	1.63	1.54	1.68
Other	—	3.36	4.09	2.08	3.49
Total	1	3	4	3	2

Average Number of Patients Seen per Hour by Region and Job					
	Private Clinic	**Second Job**	**Third Job**	**Fourth Job**	**Total**
Urban Governorates	1	3	4	2	2
Rural Lower	1	3	6	10	2
Urban Lower	1	3	5	3	2
Rural Upper	1	4	4	—	3
Urban Upper	1	4	5	2	2
Total	1	3	4	3	2

3.7 Revenue and Expenditures

Physicians were asked to estimate the monthly operating costs of their practice. This included salaries, rent, utilities, drugs, other medical supplies, other supplies, insurance, taxes and miscellaneous items. Table 3.24 shows the average practice cost per month by item and region. The overall average practice cost per month is L.E. 369. Salaries are the largest component of practice cost at 29 percent of the total practice expenditure in a month. Utilities and rent are the next largest components, at 15 percent each, followed by medical supplies other than drugs at 11 percent. Drugs and insurance are at 8 percent each. The least amount, 5 percent, is spent on non-medical supplies. Clinics in urban Upper Egypt spend the largest amount (L.E. 455 per month). In contrast, clinics in rural areas of Lower and Upper Egypt spend 15 percent of the amount spent in urban Upper Egypt on operating costs. Expenditures in urban governorates and urban Lower Egypt are 72 percent and 91 percent, respectively, of urban Upper Egypt expenditures on monthly practice costs. On average L.E. 112 is spent on salaries per month. As expected, salary expenditure is highest in urban areas: L.E. 123 in urban governorates and L.E. 113 and L.E. 119 in urban Lower and Upper Egypt respectively. This contrasts with L.E. 72 and L.E. 76 in rural Lower and Upper Egypt.

Table 3.24: Average Practice Cost (L.E.) per Month by Expenditure and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Salaries	123	72	113	76	119	112
Rent	49	63	75	81	88	69
Utilities	60	32	62	39	71	60
Drugs	22	27	12	20	26	21
Other Medical Supplies	40	20	29	25	60	41
Other Supplies	12	12	19	18	29	19
Insurance	4	2	69	6	17	22
Miscellaneous	36	18	43	43	56	42
Other	6	1	7	4	14	8
Total	328	217	416	274	455	369

Physicians were asked the fee charged in their clinics for nine procedures, but since not all physicians offer all these services the most relevant fee to look at is that for patient examinations, a service offered by 798 physicians. Table 3.25 shows the average fee for patient examination by region. The average price charged for a patient examination in urban governorates is L.E. 15, more than 2.5 times the price charged in rural regions. Urban Upper Egypt is the next most expensive region for a patient examination at L.E. 11, while physicians in urban Lower Egypt charge on average L.E. 9. The overall average fee charged by physicians is L.E. 11. However, approximately 47 percent of physicians charge L.E. 6 or less for a patient examination, while 2 percent charge a fee greater than L.E. 50.

Table 3.25: Summary Measures of Fee Charged for Patient Examination by Region

	Mean(L.E.)	Max (L.E.)	Median (L.E.)	Min (L.E.)	Frequency (Number)
Urban Governorates	14.84	95	10	2	268
Rural Lower	4.74	20	4	2	70
Urban Lower	8.08	70	7	1	167
Rural Upper	4.60	10	5	2	58
Urban Upper	10.80	98	7	1	228
Total	10.59	98	7	1	791

Table 3.26 presents the average fee charged for a patient examination by area of specialization. Psychiatry, “other” and cardiology specialties charge the highest fees in the sample at L.E. 36, L.E. 19 and L.E. 17, respectively, for a patient examination. On the other hand, pediatricians, fever specialists and general practitioners charge the least amount at L.E. 8, L.E. 5 and L.E. 5, respectively.

Table 3.26: Summary Measures of Fee Charged for Patient Examination by Area of Specialization

	Mean (L.E.)	Max (L.E.)	Median (L.E.)	Min (L.E.)	Frequency (Number)
Psychiatry	35.50	98	23.5	6	14
Other	19.00	60	10	4	15
Cardiology	16.97	95	10	4	39
Neurology	16.83	30	15.5	10	6
Ophthalmology	15.26	50	10	1	39
Dermatology	13.06	40	10	4	35
ENT	12.95	40	9	4	40
Orthopedics	12.82	50	10	2	28
Surgery	10.48	50	7	3	137
Internal Medicine	10.24	70	7	2	89
Chest	10.00	25	7	2	29
Ob/Gyn	9.07	70	6	2	124
Pediatrics	7.56	40	5	1	85
Fever	5.18	10	5	2	11
General Practice	4.53	15	4	2	100
Total	10.59	98	7	1	791

Tables 3.27 and 3.28 show gross income per month by region and area of specialization, respectively. Gross income was calculated as the product of fee charged for a patient examination and the average number of patients seen per month for 786 private clinics. On average, gross income is L.E. 972 per month for a physician with a private clinic, but income ranges from L.E. 12 to L.E. 17,100. The average income for a physician with a private clinic in an urban governorate is L.E. 1,424 per month, which is more than four times the income of a physician in rural Lower Egypt and almost 2.5 times the income of a physician in rural Upper Egypt. Physicians in urban governorates earn 1.5 times the salary of physicians in Upper Egypt and twice the amount of physicians in Lower Egypt.

Table 3.27: Summary Measures of Gross Income by Region

	Mean (L.E.)	Max (L.E.)	Median (L.E.)	Min (L.E.)	Frequency (Number)
Urban Governorates	1,424	17,100	500	24	267
Rural Lower	348	1,680	228	16	70
Urban Lower	687	8,000	320	12	165
Rural Upper	577	3,000	410	36	58
Urban Upper	942	9,600	580	20	226
Total	972	17,100	420	12	786

As expected, psychiatrists, cardiologists and "others" have the highest incomes as they charge the highest fees. Surgeons have the third lowest gross income in the sample at L.E. 539 per month. This is most likely explained by the fact that surgeons' hospital income is not captured in this survey, where the majority of their income is earned. In contrast, there are only 14 psychiatrists and they charge an average of L.E. 36 per patient examination. Fever specialists and general practitioners also have among the lowest gross incomes in the sample.

Table 3.28: Summary Measures of Gross Monthly Income by Area of Specialization

	Mean (L.E.)	Max (L.E.)	Median (L.E.)	Min (L.E.)	Frequency (Number)
Psychiatry	2,517	9,600	1,100	160	14
Cardiology	2,059	17,100	800	56	39
Other	2,015	16,800	800	140	15
Ophthalmology	1,673	15,000	600	80	39
Dermatology	1,422	9,600	600	48	35
Neurology	1,223	1,920	1,420	256	6
Pediatrics	1,206	16,800	530	32	84
ENT	1,125	4,800	720	60	40
Orthopedics	1,053	8,000	400	60	27
Chest	1,031	4,620	720	16	29
Internal Medicine	985	11,200	420	24	87
Ob/Gyn	730	5,880	300	20	123
Surgery	539	3,000	336	32	137
Fever	454	1,000	400	60	11
General Practice	369	2,400	240	12	100
Total	972	17,100	420	12	786

Net income was calculated by subtracting monthly practice costs from gross income. Of the 802 clinics surveyed, 768 provided the information required to calculate net income, which is presented in Table 3.29 by region, and Table 3.30 by specialization. On average the net income of a physician with a private clinic is L.E. 616 per month. As expected, physicians in urban governorates have the highest net income at L.E. 1,112. This is more than twice the amount earned in urban areas of Lower and Upper Egypt. It is almost nine times the net income of a physician in rural Lower Egypt and over three times the net income of a physician in rural Upper Egypt.

Table 3.29: Average Net Income by Region

	Mean (L.E.)	Frequency (Number)
Urban Governorates	1,112	183
Rural Lower	128	43
Urban Lower	327	94
Rural Upper	301	39
Urban Upper	490	152
Total	616	786

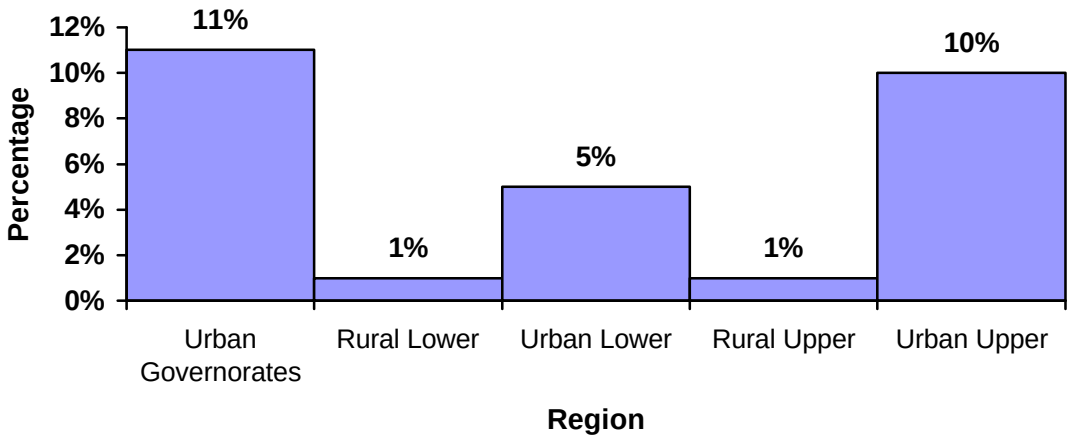
Table 3.30: Average Net Income by Area of Specialization

	Mean (L.E.)	Frequency (Number)
Psychiatry	2,069	13
Cardiology	1,737	38
Other	1,549	15
Ophthalmology	1,272	38
Dermatology	1,071	35
Pediatrics	897	81
Chest	747	28
ENT	732	40
Orthopedics	634	27
Internal Medicine	571	86
Neurology	560	5
Ob/Gyn	306	120
General Practice	181	96
Surgery	177	135
Fever	145	11
Total	616	768

On average 28 percent of all physicians with private clinics have contracts to provide health services to certain groups. The majority of physicians with contracts are located in urban areas and have an area of specialization other than general practice. Sixty percent of physicians in urban areas of Lower and Upper Egypt and 31 percent in urban governorates have contracts, but only 22 percent of physicians in rural areas of Lower and Upper Egypt have similar arrangements. Figure 3.5 shows the percentage of physicians with contracts by region.

Physicians with contracts are not precluded from seeing other patients. Overall, for this group of physicians contracted patients accounted for 31 percent of the total number of patients they treated. For the sub-sample of physicians with contracts, the percentage of contracted patients to total patients seen is 38 percent in urban governorates and 51 percent in rural areas. Again, for the sub-sample of physicians with contracts, contracted patients made up the largest share of patients seen by cardiologists (45 percent), followed by psychiatry (42 percent). The percentages for other main specialties are: general practice 25 percent, obstetrics and gynecology 20 percent, pediatrics and surgery 16 percent and internal medicine 5 percent. As expected, urban governorates with 38 percent also have the highest percentage of contracted patients in terms of all patients treated by physicians with contracts. Nineteen percent of all patients treated by physicians with contracts are contracted in rural Lower Egypt, whereas 32 percent are in rural Upper Egypt. Twenty-seven percent of all patients are contracted in both urban Lower and Upper Egypt. Dermatology (with 61 percent) and ENT (with 63 percent) have the highest percentage of physicians with contracts. The percentages for other main specialties are: surgery 30 percent, pediatrics 25 percent, internal medicine 24 percent, and obstetrics and gynecology 19 percent.

Figure 3.5: Percentage of Physicians with Contracts by Region



Seventy-two percent of all physicians have no contracts for payment and attend only to the general public. The remaining 28 percent of physicians in private clinics with contracts are paid by various payment methods: 62 percent are paid according to the number of patients seen, 37 percent are paid by fee for service, 7 percent receive a constant monthly salary, and 6 percent are paid by other methods. Fixed price per patient is prevalent in urban areas (16 percent in Lower Egypt and 40 percent in Upper Egypt) and urban governorates (39 percent). The same is true for fee for service with 26 percent of physicians with contracts using this method for charging patients in urban Lower and 27 percent in Upper Egypt, respectively, and 44 percent in urban governorates.

3.8 Quality

Forty-seven percent of physicians were satisfied with the number of clients they had, but 53 percent thought the number was insufficient. The largest percentage of dissatisfied physicians were in urban governorates (58 percent) and rural Upper Egypt (56 percent). In rural Lower Egypt 54 percent of physicians wanted more clients, as did 51 percent of physicians in urban Lower Egypt. The least number of dissatisfied physicians were in urban Upper Egypt where 47 percent would like more patients. Sixty percent of physicians said the reason the number of patients was insufficient was that they had no clients, 16 percent thought there was a low standard, 18 percent felt that their income was too low and 33 percent stated that their area was crowded with physicians. On average, physicians would like to see 11 patients per day: 12 in urban governorates, 10 in both urban and rural Lower Egypt, 11 in urban Upper and 15 in rural Upper Egypt.

Physicians spend on average 20 minutes per patient in private clinics. However the time spent per patient is only 14 minutes in rural Upper Egypt and 16 minutes in rural Lower Egypt. In urban governorates and urban Upper Egypt physicians spend an average of 20 minutes.

Forty-three percent of private clinics always keep files recording the basic information and medical history of patients, 14 percent sometimes keep files, and 43 percent never keep files. Urban areas and urban governorate clinics are more likely to keep records than those based in rural areas. Sixty-one percent of clinics in urban governorates either always or sometimes keep files, as do 60 percent of clinics in urban Lower Egypt and 59 percent in urban Lower Egypt. In comparison, only 42 percent of clinics in rural Lower Egypt and 39 percent in rural Upper Egypt always or sometimes

keep files. In most cases, the physician documents the information. However, 13 private clinics have nurses to keep the files and 22 have a secretary or a clerk to document patient histories. No rural-based clinics have clerks or secretaries to keep files and only three nurses take patient information.

Thirty-three percent of physicians in the sample subscribe to medical journals, and physicians in urban areas or urban governorates are more likely to have journal subscriptions than their rural counterparts. Forty-one percent of physicians in urban governorates, 32 percent in urban Lower Egypt and 37 percent in urban Upper Egypt subscribe to medical journals, but only 13 percent of physicians in rural Lower and Upper Egypt subscribe. Sixty-two percent of physicians advanced their medical knowledge through books, 49 percent through training, 31 percent with information from drug companies, 8 percent through other methods, and 7 percent through governmental agencies. In all cases physicians in urban areas far outnumber those in rural areas in usage of sources for knowledge advancement.

Twenty-three percent of private clinics have a declared price list for treatments and services offered. Rural clinics are more likely to have a set fee schedule than urban-based clinics: 44 percent of clinics in rural Upper and 28 percent in urban Upper Egypt have price lists compared with 16 percent in urban governorates, and 17 percent in rural Lower Egypt. Forty percent of clinics price discriminate according to the occupation of the patient and 49 percent discriminate according to the patient's income level. Three percent of all clinics discriminate by waiting time and 5 percent use other criteria. Table 3.31 shows the causes for price discrimination by region. Discrimination by the patient's income level is most prevalent in rural areas where 54 percent of physicians in Lower Egypt and 59 percent in Upper Egypt discriminate in this way. In contrast, discrimination by occupation of patient is more likely to occur in urban regions than rural regions.

Table 3.31: Percentage of Clinics Price Discriminating and Reasons for Price Discriminating

	Occupation of Patient	Income Level of Patient	Waiting Time	Other
Urban Governorates	43	57	7	4
Rural Lower	28	54	0	6
Urban Lower	39	41	1	2
Rural Upper	39	59	0	14
Urban Upper	41	42	1	7
Total	40	49	3	5

4. Dentists

4.1 Geographic Distribution

There are 113 dentists in the sample of 915 private clinics. Like physicians, dentists are more likely to be urban based: 49 percent are located in urban governorates, 27 percent in urban Lower Egypt and 15 percent in urban Upper Egypt. The remaining 9 percent are in rural areas, with 5 percent in Lower Egypt and 4 percent in Upper Egypt. Eight percent of dentists are female and, again, are located mostly in urban areas: 56 percent in urban governorates and 22 percent each in rural Lower Egypt and urban Upper Egypt. There are no female dentists in urban Lower Egypt or rural Upper Egypt in the sample.

4.2 Dentists' Characteristics

On average, a male dentist is 40 years old with 16 years of experience. Female dentists are younger with slightly less experience: 38 years old with an average of 15 years of experience.

The dentists in the sample are highly qualified as approximately 65 percent of the sample have a qualification higher than a Bachelor's degree. Dentists are not as qualified as physicians are, because only 14 percent of the physicians sampled have just a Bachelor's in Medicine. Thirty-four percent of dentists have a Diploma in Medicine, 19 percent a Masters in Medicine, 1 percent a Fellowship and 11 percent a Ph.D. in Medicine. No female dentist has a Fellowship or Ph.D., 56 percent have a Diploma, and 11 percent have a Master's degree. In comparison, only 32 percent of male dentists have a Diploma, but 20 percent have a Master's degree, 1 percent have a Fellowship and 13 percent have a Ph.D. All rural-based physicians, 9 percent of the sample, were educated within Egypt and all have either a Bachelor's or Diploma in Medicine. All dentists holding higher degrees and external degrees are located in urban areas as can be seen in Table 4.1.

Table 4.1: Dentists Education—Degree and Where Earned

	Percent of Total		Percent of Total		Percent of Urban		Percent of Rural	
Highest Degree Earned	Male	Female	Egypt	Outside	Egypt	Outside	Egypt	Outside
Bachelor in Medicine	35	33	37	0	35	0	60	0
Diploma in Medicine	32	56	36	13	35	13	40	0
Master in Medicine	20	11	18	37	20	37	0	0
Fellowship	1	0	0	13	0	13	0	0
Ph.D. in Medicine	12	0	9	37	10	37	0	0
Total	100	100	100	100	100	100	100	100

4.3 Clinic Characteristics

There are no beds in the dental clinics sampled and no clinics are open 24 hours a day. Three percent are open in the morning only, 68 percent in the evening only, and 29 percent are open both morning and evening. Approximately 4 percent of urban governorate clinics are open only in the morning, as are 10 percent of rural clinics. The majority of clinics in all areas are open only in the evening: 75 percent of clinics in urban governorates, 70 percent of rural clinics and 60 percent of urban[13] clinics are open only in the evening. Approximately one-third of all clinics are open both morning and evening: 22 percent of urban governorate clinics, 20 percent of rural clinics and 40 percent of urban clinics.

Table 4.2: Percentage Distribution of Working Time in Clinic by Region

	Morning Only	Evening Only	Morning and Evening
Urban Governorates	3.6	74.5	21.8
Rural Lower & Upper Egypt	10.0	70.0	20.0
Urban Lower & Upper Egypt	0.0	60.4	39.6
Total	2.7	68.1	29.2

There are 145 staff jobs in the sampled dental clinics: 102 full-time and 43 part-time. Table 4.3 shows the total number of staff jobs by region. Secretaries and cleaners are the only non-medical employees in dental clinics and constitute 68 percent of all staff jobs. The majority of medical employees are nurses and assistant physicians with 23 percent and 6 percent of total staff jobs, respectively. Similar to physician private clinics, the majority of staff jobs are located in urban areas: 51 percent in urban governorates, 42 percent in urban areas of Lower and Upper Egypt and 7 percent in rural areas of Lower and Upper Egypt.

Table 4.3: Total Number of Staff by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Secretaries	28	1	15	0	8	52
Cleaner	17	2	15	3	10	47
Nurses	22	2	5	2	3	34
Asst. Physician	6	0	2	0	0	8
Anesthesiologist	0	0	2	0	0	2
Physical Therapist	0	0	0	0	1	1
Lab Technician	1	0	0	0	0	1
Total	74	5	39	5	22	145

[13] Urban areas include urban areas in Upper and Lower Egypt, but exclude urban governorates.

4.4 Services Offered

Table 4.4 shows the percentage of dentists offering certain kinds of treatments by region. The most common services are patient examinations, surgeries and other services. The least common are giving injections and laboratory tests. Certain services are not offered in some areas. For example, there are no dentists in rural areas of Upper and Lower Egypt who provided radiological services. Also, dentists in urban Lower Egypt only provide laboratory tests.

Table 4.4: Percentage of Dentists Offering Specialized Services by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Patient Examinations	100	100	100	100	100	100
Surgeries	24	17	55	25	59	37
Routine Check-up	27	33	26	25	29	27
Other	13	33	39	25	18	22
Radiology	25	0	6	0	29	19
First Aid	2	17	13	25	6	7
Giving Injections	2	33	6	0	6	5
Lab Tests	0	0	6	0	0	2

Table 4.5 shows that the most common reason for visiting a dentist is for an examination, with a dentist seeing on average 56 patients per month for that service. This is followed by radiology and routine check-ups. There is little demand for most other services. For example, on average there are two patients per month requiring first aid, three requiring surgery, and four requiring "other" services.

Table 4.5: Average Number of Patients Seen by Treatment and Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Patient Examinations	62	47	28	106	63	56
Radiology	13	0	18	0	18	15
Routine Check-up	8	10	6	40	10	9
Giving Injections	20	4	9	0	2	8
Lab Tests	0	0	4	0	0	4
Other	2	8	7	3	1	4
Surgeries	3	0	4	2	3	3
First Aid	1	0	3	2	2	2

4.5 Multiple Employment

Twenty percent of the 113 dentists sampled work only in their private clinic. Seventy-three percent have two jobs, 6 percent have three jobs and 1 percent have four jobs. This implies that the 113 dentists have 213 jobs, of which 100 are extra jobs.

Table 4.6 shows the affiliation and regional distribution of dentists with multiple employment. Sixty-one percent of those with second jobs are employed by the MOH. Universities provide approximately 20 percent of second jobs, and 10 percent are provided by the HIO. None of the dentists with a second job are employed by the private sector. Only 3 percent of extra jobs, or two dentists with three jobs, are provided by private sector. "Others" provide 57 percent of third jobs. The dentist with four jobs is employed by the MOH in all of his extra jobs.

Dentists with only one job are most likely to be urban based; in fact, 95 percent of those working only in their clinic are located in urban governorates or urban areas of Lower and Upper Egypt. They are also more likely to have a second and third job as 92 percent of those with a second job and 71 percent of those with a third job are urban-based. However, the only dentist with four jobs is located in rural Lower Egypt.

Table 4.6: Affiliation and Regional Distribution of Dentists with Multiple Jobs

	Second Job	Third Job	Fourth Job
Affiliation			
MOH	51	1	1
CCO	0	0	0
HIO	8	0	0
University	16	0	0
Private	0	2	0
Other	8	4	0
Total	83	7	1
Region			
Urban Governorates	40	1	0
Rural Lower	2	2	1
Urban Lower	28	1	0
Rural Upper	4	0	0
Urban Upper	9	3	0
Total	83	7	1

In general, dentists spend more time working in their second job, most likely a government job, and see more patients than in their private clinics. On average, the dentists work five hours per day, six days per week in their government job, whereas they work four hours per day, six days per week in their own clinics. On average they see 88 patients per week at a rate of approximately three patients per hour in the second job. The number of patients seen drops dramatically in their private clinic to 14 patients per week at a rate of 0.6 patients per hour. The patient rate per hour in the third and fourth job at 3.4 and 2.5, respectively, is close to the rate in the second job and again much higher than the put-through rate in the private clinic.

Table 4.7: Summary Measures of Hours Worked and Patients Seen by Job

	Private Clinic	Second Job	Third Job	Fourth Job
Average Number of Hours Worked per Day	4	5	3	4
Average Number of Days Worked per Week	6	6	3	1
Average Number of Hours Worked per Week	22	29	11	4
Average Number of Patients Seen per Week	14	88	18	10
Average Number of Patients Seen per Hour	0.6	2.9	3.4	2.5

Table 4.8 presents the above measures by region and Table 4.9, by affiliation. In general, dentists work more hours per day in rural areas than urban areas, but more patients are seen per week and per hour in urban areas, with the exception of rural Upper Egypt.

Table 4.8: Average Number of Hours Worked and Patients Seen by Region and Job

Average Number of Hours Worked per Day				
	Private Clinics	**Second Job**	**Third Job**	**Fourth Job**
Urban Governorates	4	5	1	—
Rural Lower	6	3	3	4
Urban Lower	4	6	4	—
Rural Upper	4	6	—	—
Urban Upper	4	5	4	—
Total	4	5	3	4
Average Number of Days per Week				
	Private Clinics	**Second Job**	**Third Job**	**Fourth Job**
Urban Governorates	5	6	4	—
Rural Lower	6	5	2	1
Urban Lower	6	6	3	—
Rural Upper	5	5	—	—
Urban Upper	6	5	4	—
Total	6	6	3	1
Average Number of Hours Worked per Week				
	Private Clinics	**Second Job**	**Third Job**	**Fourth Job**
Urban Governorates	20	30	4	—
Rural Lower	33	18	5	4
Urban Lower	22	32	12	—
Rural Upper	20	32	—	—
Urban Upper	25	26	19	—
Total	22	29	11	4
Average Number of Patients Seen per Week				
	Private Clinics	**Second Job**	**Third Job**	**Fourth Job**
Urban Governorates	14	73	35	—
Rural Lower	11	40	19	10
Urban Lower	11	116	25	—
Rural Upper	26	124	—	—
Urban Upper	20	75	10	—
Total	14	88	18	10

Average Number of Patients Seen per Hour				
	Private Clinics	**Second Job**	**Third Job**	**Fourth Job**
Urban Governorates	0.7	2.5	9.0	—
Rural Lower	0.4	3.6	3.8	—
Urban Lower	0.5	3.2	2.1	2.5
Rural Upper	1.2	4.2	—	—
Urban Upper	0.7	2.6	1.6	—
Total	0.6	2.9	3.4	2.5

Table 4.9: Average Number of Hours Worked and Patients Seen by Affiliation and Job

Average Number of Hours Worked per Day			
	Second Job	**Third Job**	**Fourth Job**
MOH	5	4	4
CCO	—	—	—
HIO	5	—	—
University	5	—	—
Private	—	4	—
Other	6	2	—
Total	5	3	4
Average Number of Days per Week			
	Second Job	**Third Job**	**Fourth Job**
MOH	6	2	1
CCO	—	—	—
HIO	6	—	—
University	5	—	—
Private	—	6	—
Other	6	3	—
Total	6	3	1
Average Number of Patients per Week			
	Second Job	**Third Job**	**Fourth Job**
MOH	88	27	10
CCO	—	—	—
HIO	115	—	—
University	28	—	—
Private	—	10	—
Other	154	18	—
Total	88	18	10
Average Number of Patients Seen per Hour			
	Second Job	**Third Job**	**Fourth Job**
MOH	3	6	3
CCO	—	—	—
HIO	4	—	—
University	1	—	—
Private	—	0.4	—
Other	4	4	—
Total	3	3	3

4.6 Finance

The average fee for a dental examination is L.E.10 for the total sample, with a range from L.E. 4 to L.E. 13 by region. Urban regions that have more dentists tend to have higher fees than rural regions with relatively few dentists: a dentist charges L.E. 13 in urban governorates where 49 percent of dentists are located. Similarly, a fee of L.E. 9 is charged by dentists in urban Upper Egypt, where 15 percent of dentists are located, and L.E. 5 by the 27 percent of dentists who are located in urban areas of Lower Egypt. On the other hand, 5 percent of dentists are located in rural Lower Egypt and charge L.E. 4 for a patient examination, while dentists charge L.E. 5 in rural Upper Egypt and account for 4 percent of the sample. Table 4.10 shows the average fee for a patient examination and average practice cost by region.

Table 4.10: Average Fee for Patient Examination and Practice Cost by Region (L.E.)

	Fee (L.E.)	Average Practice Cost (L.E.)
Urban Governorates	13	483
Rural lower	4	370
Urban lower	5	322
Rural upper	5	386
Urban Upper	9	497
Total	10	431

On average, dentists spend L.E. 431 per month on their practice. The breakdown of average practice cost by expenditure and region is presented in Table 4.11. Unlike physician practices, where salaries are the main expenditure, in dental clinics, medical supplies other than drugs are the largest expenditure item per month. Dentists spend more on utilities, drugs, and miscellaneous items and other supplies than physicians; on all other cost items, expenditures for physicians exceed those for dentists.

Table 4.11: Average Practice Cost per Month by Expenditure and Region (L.E.)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Other Medical Supplies	104	135	70	35	110	95
Salaries	117	66	50	70	96	90
Utilities	94	62	42	32	68	71
Drugs	62	17	47	62	68	56
Rent	53	75	52	72	58	55
Miscellaneous	59	17	32	55	29	44
Other Supplies	25	21	15	50	48	27
Other	10	2	9	0	22	11
Insurance	6	0	11	8	11	8
Total	483	371	322	386	497	431

4.7 Quality

Forty-four percent of dentists stated that the number of patients attending their clinics is insufficient. Sixty-six percent of dentists in rural Lower Egypt are unsatisfied with the number attending their clinics. In both urban governorates and urban Lower Egypt, 45 percent of dentists were dissatisfied with patient numbers. In Upper Egypt, 25 percent of rural dentists and 35 percent of urban dentists expressed dissatisfaction with the numbers of patients attending their clinics. Seventy-two percent of dissatisfied dentists stated that having no clients is the reason for their dissatisfaction. Twenty-six percent felt that there are too many dentists in the area and 24 percent said that a low standard is the reason for poor attendance at the clinic. Eighteen percent were dissatisfied because their income is low and 14 percent gave other reasons.

Dentists reported spending an average of 22 minutes with each patient. In Lower Egypt, dentists report spending 21 minutes with patients in rural areas and 18 in urban areas. In Upper Egypt, dentists reported spending more time with patients in urban areas than rural areas: 27 minutes per patient in urban areas and 16 minutes in rural areas.

Only 29 percent of dentists, all located in urban areas or urban governorates, report that they always keep records for each patient. Twenty percent sometimes keep records; all except one of them live in urban areas. The remaining 51 percent of dentists never keep records. In 95 percent of clinics where records are always or sometimes kept, it is the dentist who documents the information.

Twenty percent of dentists subscribe to medical journals, but none are located in rural areas. Books are the main source of reference; 50 percent of dentists report this as a source for advancing knowledge. Thirty-five percent use training, 26 percent use information from syndicates and 24 percent use drug companies for advanced medical knowledge. Seventeen percent have other methods and 7 percent use information from government agencies.

Only 10 percent of dental clinics have a declared price list for procedures carried out. Fifty percent of clinics in rural Upper Egypt have a price list, but none in rural Lower Egypt have such a list. Thirteen percent of urban governorate clinics, 6 percent of urban Upper Egypt clinics and 3 percent of urban Lower Egypt clinics have a declared price list. The most common reason for price discrimination is the income level of the patient, with 42 percent of clinics discriminating according to this criterion. Thirty-seven percent of clinics discriminate according to the occupation of the patient. Waiting time and other reasons are other criteria clinics use, but these are not very prevalent and are confined to urban areas and urban governorates. The distribution of clinics by region and criteria for price discrimination is presented in Table 4.12.

Table 4.12: Percentage of Clinics Price Discrimination and Reasons for Discriminating

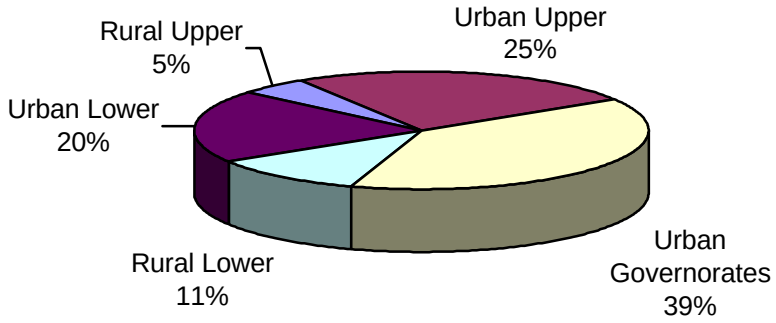
	Occupation of Patient	Income Level of Patient	Waiting Time	Other
Urban Governorates	18	22	1	1
Rural Lower	2	3	0	0
Urban Lower	10	11	1	0
Rural Upper	1	1	0	0
Urban Upper	7	6	0	2
Total	37	42	2	3

5. Pharmacies

5.1 Distribution of Providers

There are 261 pharmacies in the sample: 39 percent in urban governorates, 25 percent and 20 percent in urban Upper and Lower Egypt, and 11 percent and 5 percent in rural Lower and Upper Egypt, respectively. In other words, there are five times more pharmacies in urban areas or urban governorates than in rural areas.

Figure 5.1: Regional Distribution of Pharmacists



The survey interviewed the main pharmacist in each pharmacy. Of these, 81 percent were male and 19 percent were female. Female pharmacists are more likely to be employed in urban areas or urban governorates, (90 percent of females in the sample) than rural areas (Table 5.1).

Table 5.1: Distribution of Pharmacists by Gender

	Male Percentage	Female Percentage	Total Percentage
Urban Governorates	28.7	10.7	39.5
Rural Lower	8.8	2.3	11.1
Urban Lower	17.2	2.3	19.5
Rural Upper	5.0	0.4	5.4
Urban Upper	21.1	3.4	24.5
Total	80.8	19.2	100.0

5.2 Characteristics of Supply

Many pharmacists commute to different regions to work. Table 5.1 shows the residence of pharmacists relative to the location of their pharmacy. Approximately 11 percent of the sample travel between governorates to work and 20 percent work in different regions within the same governorate. The remaining 68 percent of pharmacists live in the same city or village as the pharmacy in which they were interviewed.

Table 5.2: Current Residence of Pharmacists

Current Residence	Percentage
In the same city/village	68.20
Urban in the same governorate	18.77
Urban in another governorate	11.11
Rural in the same governorate	1.53
Rural in another governorate	0.38
Total	100

The average age of all pharmacists in the sample is 42 years. Table 5.3 shows average age of pharmacists by region and gender. In rural areas they are slightly younger, at 40 and 39 years old in Lower and Upper Egypt, respectively. In urban areas of Lower and Upper Egypt they are 42 and 43 years old. Female pharmacists tend to be several years younger than males: on average, females are 38 years old and males are 43 years old.

Table 5.3: Average Age of Pharmacists by Gender

	Male	Female	Total
Urban Governorates	44	37	42
Rural Lower	40	41	40
Urban Lower	43	38	42
Rural Upper	40	30	39
Urban Upper	44	39	43
Total	43	38	42

Approximately 96 percent of the pharmacists hold a Bachelor's in pharmacology as their highest degree. Three percent of the sample has a Diploma, 1 percent have a Ph.D. and no pharmacist has a Master's degree. All pharmacists with a Diploma work in urban governorates while those with a Ph.D. work in urban Upper Egypt. Table 5.4 shows highest certificate obtained by region.

Table 5.4: Highest Degrees Earned in Pharmacology by Region

	Bachelor	Diploma	Ph.D.	Total
Urban Governorates	38	2	0	40
Rural Lower	11	0	0	11
Urban Lower	19	0	0	19
Rural Upper	5	0	0	5
Urban Upper	23	1	1	25
Total	96	3	1	100

Approximately 81 percent of the pharmacists interviewed own their own pharmacy, 6 percent are co-owners, and 13 percent are employed by others. As expected, the majority of employed pharmacists work in urban governorates (7 percent of sample), followed by urban areas of Lower and Upper Egypt (5 percent) and rural areas of Lower and Upper Egypt (1 percent). On average, pharmacists have been working 11 years in the pharmacy where they were interviewed. Pharmacists in rural Lower Egypt have been working on average only eight years where they were interviewed. This may be attributed to the fact that pharmacists in rural areas tend to be younger than pharmacists in urban areas. Alternatively, it may suggest that there has been a recent increase in the number of pharmacies in the region. This is supported by the fact that of the 29 pharmacies in that region, only 3 percent of pharmacists are residents, while others travel to work in the region. Overall, pharmacies in the sample have been operating for an average of 18 years. Rural pharmacies were operating for an average of 15 years in Lower Egypt and 12 years in Upper Egypt. Pharmacies in urban governorates and urban Upper Egypt were in business for 19 years, while those in urban Lower Egypt have been operating for the last 20 years.

Approximately 64 percent of pharmacies are open six days per week. Only one pharmacy, located in rural Lower Egypt, is open five days per week. The remaining 36 percent are open seven days per week. Pharmacies are open on average approximately 12 hours a day, except for rural Upper Egypt where they are open 9.71 hours per day, and urban Upper Egypt where they are open 11.31 hours per day. On average, pharmacies are opened 74.21 hours per week as shown in Table 5.5. Pharmacies in Upper Egypt have the shortest week at 63.84 hours in rural areas and 72 hours in urban areas. Urban governorate pharmacies are next with 74.45 hours. The longest week is in Lower Egypt: 78.68 hours in urban areas and 76.14 in rural areas.

Table 5.5: Pharmacy Hours by Region

	Average Number of Days per Week	Average Number of Hours per Day	Average Number of Hours per Week
Urban Governorates	6.30	11.82	74.45
Rural Lower	6.34	12.00	76.14
Urban Lower	6.45	12.20	78.68
Rural Upper	6.57	9.71	63.84
Urban Upper	6.33	11.31	71.59
Total	6.36	11.67	74.21

There are 633 personnel employed in the pharmacies sampled: 46 percent work full-time and, 54 percent work part-time. Table 5.6 shows the distribution of personnel by employment and payment status. Approximately 1 percent of full-time and part-time employees are unpaid. Sixty percent of personnel are sales assistants and 30 percent are cleaners. Cashiers, secretaries, guards and others make up the remaining 10 percent of personnel employed in pharmacies.

Table 5.6: Total Number of Personnel Working in Pharmacies by Employment and Payment Status

	Full-Time				Part-Time				
	Paid		Unpaid		Paid		Unpaid		Total
	Number	%	Number	%	Number	%	Number	%	Number
Sales Persons	184	48.3	2	0.5	194	50.9	1	0.3	381
Cleaners	71	38.0	0	0.0	116	62.0	0	0.0	187
Cashiers	22	57.9	0	0.0	15	39.5	1	2.6	38
Secretaries	8	66.7	0	0.0	4	33.3	0	0.0	12
Guards	5	55.6	0	0.0	4	44.4	0	0.0	9
Other	1	16.7	0	0.0	4	66.7	1	16.7	6
Total	291	46.0	2	0.3	337	53.2	3	0.5	633

The distribution of personnel by region is given in Table 5.7. There are five personnel who work free of charge: two live in rural areas of Lower and Upper Egypt, two live in urban areas of Lower Egypt and one lives in an urban governorate. The number of personnel in urban areas and urban governorates is approximately six times more than the number in rural areas. Eighty-seven percent of personnel are employed either in urban areas or urban governorates: 43 percent in urban governorates, 23 percent in Lower Egypt and 21 percent in Upper Egypt. The remaining 12 percent are divided between the rural areas of Lower (7 percent) and Upper (5 percent) Egypt.

Table 5.7: Distribution of Personnel Working in Pharmacies by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Sales Persons	39.9	10.5	25.5	5.2	18.9	60.2
Cleaners	45.5	5.3	16.0	4.8	28.3	29.5
Cashiers	55.3	5.3	26.3	5.3	7.9	6.0
Secretaries	33.3	16.7	33.3	0.0	16.7	1.9
Guards	44.4	0.0	22.2	11.1	22.2	1.4
Other	66.7	16.7	16.7	0.0	0.0	0.9
Total	42.7	8.7	22.7	5.1	20.9	100.0

5.3 Services Offered

Pharmacists reported dispensing medicine to an average of 327 customers per week. Customers come either with a prescription, without a prescription, or consult with the pharmacist who then prescribes medicine for them. Table 5.8 presents the average number of customers for each type per week by region. The average number of customers who come to the pharmacy with a prescription is slightly larger than those without a prescription, but the two are quite similar in each region. Approximately 16 percent of the average number of customers consult with the pharmacist and buy whatever he prescribes for them. This is most likely to happen in rural areas where 21 percent of pharmacy customers in Lower Egypt and 18 percent in Upper Egypt consult with the pharmacist, in comparison with 17 percent of customers in urban governorates, and 16 percent and 14 percent of customers in urban Lower and Upper Egypt, respectively.

Table 5.8: Average Number of Customers to whom Medicine is Dispensed

Region	Customers with Prescriptions	Customers without Prescriptions	Customers Consult with Pharmacist	Total Customers
Urban Governorates	123	112	47	282
Rural Lower	140	144	71	343
Urban Lower	162	150	64	412
Rural Upper	129	109	52	289
Urban Upper	150	135	46	329
Total	139	128	53	327

Sixty-three percent of all pharmacies in the sample prepare drugs that are sold in the pharmacy. Rural Upper Egypt is an exception where only 29 percent of pharmacies in the region prepare drugs in-house. However, drugs prepared on the premises make up a very small percentage of total drugs sold: approximately 3 percent of total drugs sold are prepared on the premises as shown in Table 5.9.

Table 5.9: Drugs Prepared and Sold in Pharmacy (in percentages)

Region	Prepare and Sell Drugs in Pharmacy	Average Percentage of Sold Prepared Drugs
Urban Governorates	70	3
Rural Lower	55	2
Urban Lower	65	4
Rural Upper	29	2
Urban Upper	64	4
Total	63	3

As well as dispensing drugs, pharmacies in Egypt provide medical advice. Sixty-one percent of pharmacies sometimes advise clients to have specific laboratory or radiological investigations carried out. The distribution of pharmacies offering medical advice across regions is approximately uniform, with the exception of urban Lower Egypt where only 51 percent of pharmacists advise clients to have specific tests carried out (see Table 5.10). Pharmacists advise on average 10 clients per week to have certain tests, but this figure ranges from six to 15 clients by region. Approximately 33 percent of pharmacists who advise clients to have specific tests also recommended that they go to a specific place to have the tests done. Pharmacists in rural Upper Egypt were most likely and pharmacists in urban governorates were least likely to recommend a specific place for the tests.

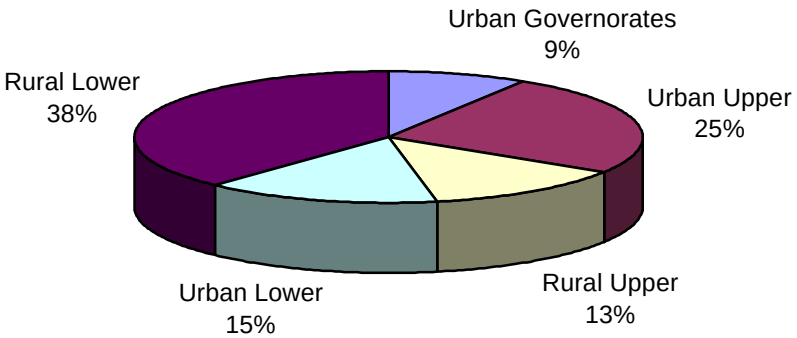
Table 5.10: Distribution of Pharmacists who Recommend Clients to Have Specific Tests by Region (in percentages)

Region	Advise Clients to Have Specific Tests	Average Number of Clients Directed to Have Specific Tests in last Week	Specific Place Recommended
Urban Governorates	62	6	27
Rural Lower	66	15	37
Urban Lower	51	10	35
Rural Upper	64	14	56
Urban Upper	63	12	35
Total	61	10	33

5.4 Multiple Employment

Ninety-one percent of pharmacists have only one job, 8 percent have two jobs and 1 percent have three jobs. The regional distribution of pharmacists with multiple employment is shown in Figure 5.2. All pharmacists with a third job are located in urban Upper Egypt.

Figure 5.2: Regional Distribution of Pharmacists with Second Job



Pharmacies and government institutions are the main employers of pharmacists with a second job. Those with a third job are equally distributed between pharmacies, hospitals and other institutions. Table 5.11 presents the percentage distribution of multiple employment by institution type.

Table 5.11: Percentage Distribution of Multiple Employment by Institution Type

	Second Job	Third Job
Pharmacy	64	33.33
Hospital/Public Clinic	8	33.33
Drug Manufacturing Company	4	—
Government Institution	16	—
Other	8	33.33
Total	100	100

Table 5.12 shows the employment status of pharmacists by job. Eighty-seven percent of pharmacists in the sample are employers and managers[14] of the pharmacy in which they were interviewed. Fifty-six percent of pharmacists in the sample with a second job are employers and managers in that pharmacy as are 67 percent of the sample with a third job. The remainder are employees.

Table 5.12: Employment Status of Pharmacists by Job (in percentages)

Employment Status	Pharmacy	Second Job	Third Job
Employer and Manager	87	56	67
Employee	13	44	33
Total	100	100	100
Frequency	N = 261	N = 25	N = 3

Table 5.13 presents the average number of hours worked per week in each job by region by the pharmacist interviewed. The average working day of a pharmacist is nine hours.[15] This falls to five hours per day in the second job and four hours in the third job. Pharmacists work on average six days per week in the pharmacy in all regions. They report working five days per week in the second job in all regions except urban Lower Egypt where they work six days per week. All pharmacists with three jobs are located in urban Upper Egypt and all report working seven days per week in the third job.

Table 5.13: Average Number of Hours Worked by Pharmacists per Day by Region

Region	Pharmacy	Second Job	Third Job
Urban Governorates	8	6	—
Rural Lower	8	4	—
Urban Lower	10	4	—
Rural Upper	8	9	—
Urban Upper	8	5	4
Total	9	5	4

[14] Approximately 81percent of pharmacists said they owned the pharmacy they were interviewed in and 6 percent were co-owners.

[15] Although the pharmacist works an average of nine hours per day, the pharmacy is opened 11.67 hours per day with employees covering the time the pharmacist is not present in the pharmacy.

On average, pharmacists work 54 hours per week in the job at which they were interviewed (Table 5.14). Those with a second job report working an average of 29 hours per week, while those with a third job work 28 hours per week. Eighteen percent of pharmacists with only two jobs reported working the same number of hours in both jobs, 41 percent reported working fewer hours in the second job, and 41 percent reported working more hours in the second job. One pharmacist with three jobs reported working the same number of hours in all three jobs. In terms of the hours worked, pharmacists with multiple employment regard the jobs other than the one where they were interviewed as their main job.

Table 5.14: Average Number of Hours Worked per Week by Region

Region	Pharmacy	Second Job	Third Job
Urban Governorates	51	38	—
Rural Lower	52	24	—
Urban Lower	62	27	—
Rural Upper	55	45	—
Urban Upper	54	26	28
Total	54	29	28

5.5 Finance

The pharmacies in the sample reported spending a total of L.E. 252,352 per month on all operating costs except drugs. Eighty-six percent of total monthly expenditures is spent on the following categories: salaries (58 percent), miscellaneous items (14 percent), and utilities (14 percent). Rent, insurance and other items are the remaining sources of expenditure. Table 5.15 shows average monthly expenditure by item and region. It costs an average of L.E. 967 per month to run the pharmacy. In urban governorates and urban areas average operating costs are higher than rural areas, reflecting higher staff costs, utilities and miscellaneous expenditures.

Table 5.15: Average Expenditure by Item and Region (L.E.)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Salaries	808	287	488	381	618	611
Insurance	47	62	82	30	84	64
Rent	56	103	66	83	124	82
Utilities	174	56	125	62	145	137
Miscellaneous	170	78	140	98	145	143
Other	0	4	8	2	17	6
Total	1,117	575	857	649	1,060	967

Table 5.16 presents the average revenue from monthly sales by region. The sale of medications represents 86 percent of total revenue. At 14 percent of revenue, the sale of other goods represents a significant proportion of income that perhaps could be easily expanded. As expected with higher expenditures in urban areas and governorates, revenue is also higher in these areas than in rural areas. Although average revenue per month is L.E. 11,622 and average operating costs per month are L.E. 967, without the cost of drugs we are unable to derive an estimate of profit per month for each pharmacy.

Table 5.16: Average Value of Sales per Month by Region (L.E.)

Region	Medications	Other Items	Total
Urban Governorates	12,430	2,097	13,843
Rural Lower	5,969	974	7,289
Urban Lower	9,446	1,768	11,309
Rural Upper	8,750	926	9,699
Urban Upper	9,602	1,666	11,462
Total	9,925	1,681	11,622

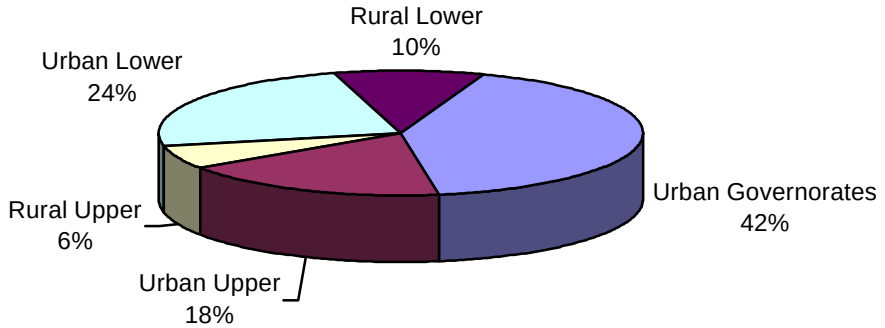
Pharmacists were asked how revenues in 1995 compared with the previous year. Thirty percent of pharmacies reported no change in sales, 45 percent saw a decrease in sales, and 18 percent had an increase in sales. Five percent of pharmacies interviewed were opened that year and 2 percent did not know if there was any change in sales since the previous year.

Table 5.17: Changes in Revenue from the Previous Year by Region (in percentages)

	No Change	Decreased	Increased	New Pharmacy	Don't Know	Total
Urban Governorates	39.7	40.7	29.8	58.3	50.0	39.5
Rural Lower	11.5	10.2	14.9	0.0	16.7	11.1
Urban Lower	19.2	20.3	23.4	8.3	0.0	19.5
Rural Upper	5.1	4.2	8.5	8.3	0.0	5.4
Urban Upper	24.4	24.6	23.4	25.0	33.3	24.5
Total	100	100	100	100	100	100

As well as selling drugs to the general public, many pharmacies also have contracts with organizations to provide drugs to their patients. Forty percent of pharmacies in the sample have such contracts with organizations. The location of those with contracts is shown in Figure 5.3. Unsurprisingly, the majority is located in urban areas or urban governorates. The pharmacists with contracts have a total of 203 contracts for the supply of drugs to patients of organizations. They are distributed as follows: 53 percent of contracts are with health insurance or government organizations, 41 percent are with public sector companies, 4 percent are with private sector companies and 2 percent are with others.

Figure 5.3: Regional Distribution of Pharmacies with Contracts



5.6 Quality

In order to obtain a measure of the quality of services provided, pharmacists were asked whether they could always provide the drugs that clients requested. Approximately 97 percent of pharmacies in the sample have not been able to do so at some time. Twenty-five percent of pharmacies always have a shortage of supply, while 52 percent sometimes face a scarcity of drugs. Shortages are more likely to be faced by pharmacies in urban areas or urban governorates as 26 percent report a constant shortage of drugs. Twenty-one percent of rural area pharmacies report having constant shortages. Table 5.18 presents the percentage distribution of pharmacies that experience shortages according to how often they have drug shortages.

Table 5.18: Percentage Distribution of Pharmacies with Drug Shortages by Region

	Frequency of Drug Shortage			
	Scarcely	**Sometimes**	**Always**	**Total**
Urban Governorates	11	58	31	100
Rural Lower	33	48	19	100
Urban Lower	22	55	24	100
Rural Upper	36	43	21	100
Urban Upper	34	44	21	100
Total	22	52	25	100
Number of Pharmacies by Frequency of Shortage	N = 57	N = 133	N = 64	N=254

Table 5.19 presents the distribution of pharmacies by region according to the reasons why they encounter a shortage in the supply of drugs. More than one response was allowed to explain why they had a shortage of drugs. Eighty-eight percent of pharmacies that face shortages report this is due to difficulties in obtaining credit from suppliers. Unavailability of supply and other reasons are offered as explanations for shortages by 13 percent and 11 percent of pharmacies with shortages, respectively.

Table 5.19: Reasons for Shortage of Drugs (in percentages)

Region	Difficult to Get Credit	Supply not Available	Other	Difficult to Get Permission from Pharmaceutical Company
Urban Governorates	92	15	10	2
Rural Lower	89	0.4	15	0.4
Urban Lower	96	12	2	—
Rural Upper	71	21	21	14
Urban Upper	77	13	18	—
Total	88	13	11	2

Pharmacists were also asked what controls they imposed on the supply of drugs across the counter. On average 96 percent of pharmacies will not supply certain categories of drugs without a written prescription. Table 5.20 presents these categories and the frequency by region of pharmacies that will not supply the drugs without a written prescription. Hypnotic drugs and anti-depressants are the most tightly controlled drugs, as they will not be given out in 88 percent and 85 percent of pharmacies, respectively, without an appropriate prescription. Anti-diabetic drugs and other medicines are the least restricted drugs without prescriptions. Overall, it does not appear as if any region is particularly more stringent than others in providing the categories of drugs listed below without a written prescription.

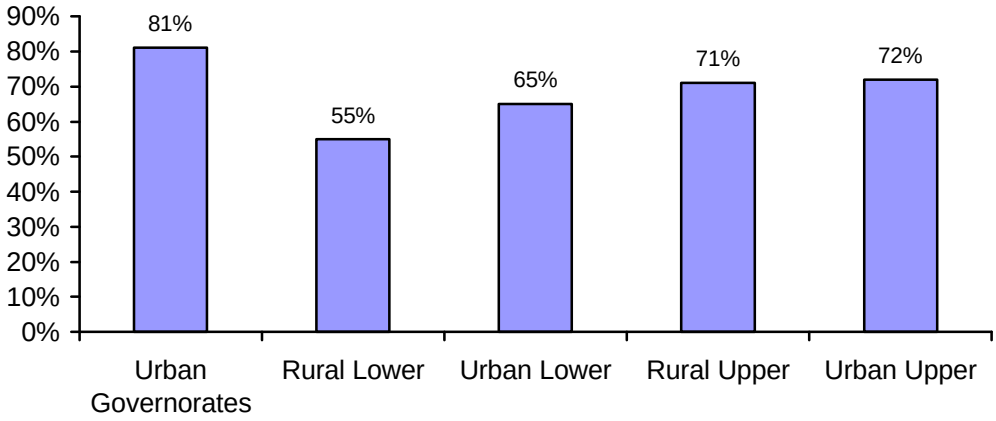
Table 5.20: Percentage Distribution of Pharmacy that do not Provide Certain Categories of Drugs Without Written Prescriptions

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Cardio-vascular	15	31	29	29	25	23
Anti-Depressants	96	79	71	79	83	85
Anti-Diabetic	8	31	22	14	16	15
Hypnotic Drugs	96	86	88	93	75	88
Cough Medicine	55	72	57	50	39	53
Other	4	17	8	21	27	13

Seventy-two percent of pharmacies reported experiencing problems that affected the quality of service provided to clients. Urban-based pharmacies are more likely to have quality problems than pharmacies located in rural areas. Figure 5.4 shows the distribution of pharmacies that reported facing difficulties, which affect the quality of services they provide.

Shortages of certain drugs are the biggest problem encountered by those reporting problems affecting the quality of services provided. Location of the pharmacy and an overcrowding of pharmacies within a certain area are problems for 12 percent and 11 percent of pharmacies surveyed, respectively.

Figure 5.4: Percentage Distribution of Pharmacies Reporting Problems Affecting the Quality of Services



Certain solutions were suggested for improving the quality of services provided in pharmacies. Overall, pharmacies felt that external factors needed to change in order to improve quality. Seventy-five percent of the sample pharmacies suggested increasing the availability of drugs, and 44 percent suggested reducing the price of drugs. Only 4 percent thought extended opening hours would increase the quality of services provided. The majority was satisfied with their staff as only 6 percent suggested improving the quality of staff. Nine percent felt that receiving guidelines in pharmacological services would help improve quality.

Table 5.21: Suggestion for Improving Quality of Services by Region (in percentages)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Percentage of Sample
Availability of Drugs	40.1	11.7	21.3	3.6	23.4	75
Reduce the Price of Medicine	43.5	11.3	18.3	8.7	18.3	44
Other	25.9	16.7	18.5	3.7	35.2	21
Receive Guidelines in Pharmacological Services	47.8	8.7	26.1	8.7	8.7	9
Improve Quality of Staff	60.0	0.0	26.7	6.7	6.7	6
Increase Doctors	50.0	16.7	0.0	16.7	16.7	5
Keep Facilities Open Longer	40.0	0.0	20.0	10.0	30.0	4

Pharmacists were asked for their opinion whether the price control system had any impact on the income of the pharmacy. The sample is almost uniformly distributed in their opinions. However, slightly more pharmacists thought that it had a negative impact, followed by those who thought it had a positive impact.

Table 5.22: Impact of Price Control System by Region

	Positive Impact	Negative Impact	No Impact	Total
Urban Governorates	37.9	32.0	30.1	39.5
Rural Lower	24.1	44.8	31.0	11.1
Urban Lower	27.5	35.3	37.3	19.5
Rural Upper	35.7	35.7	28.6	5.4
Urban Upper	37.5	40.6	21.9	24.5
Total	34.1	36.4	29.5	100

6. Dayas

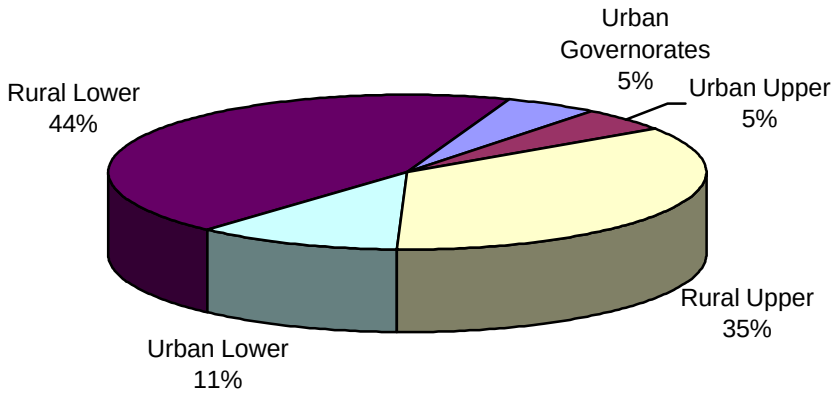
6.1 Introduction

A daya or traditional birth attendant is usually an older woman, who has had several children herself and has learned her profession by apprenticeship. Dayas are common in Egyptian villages, as well as in cities and towns. Official policies on the daya have changed over the years. In the 1940s, a formal training program was launched, and by 1950 more than 5,000 dayas had taken the course and been granted government permits. Then in 1969, no further permits were issued and daya activities were made illegal. In spite of this, it is estimated that dayas provided assistance for 49 percent of births in the mother's home (Egypt Demographic and Health Survey, 1995). Even when trained nurses are available to handle deliveries without charge, most village families prefer the daya.

6.2 Geographic Distribution

There are 132 dayas in the sample. The distribution by region is presented in Figure 6.1. Unlike physicians, the majority of dayas are located in rural areas: 44 percent of the sample are in rural Lower Egypt and 35 percent in rural Upper Egypt. The remaining 21 percent are distributed as follows: 5 percent are located in urban governorates, 5 percent in urban Upper Egypt and 11 percent in urban Lower Egypt.

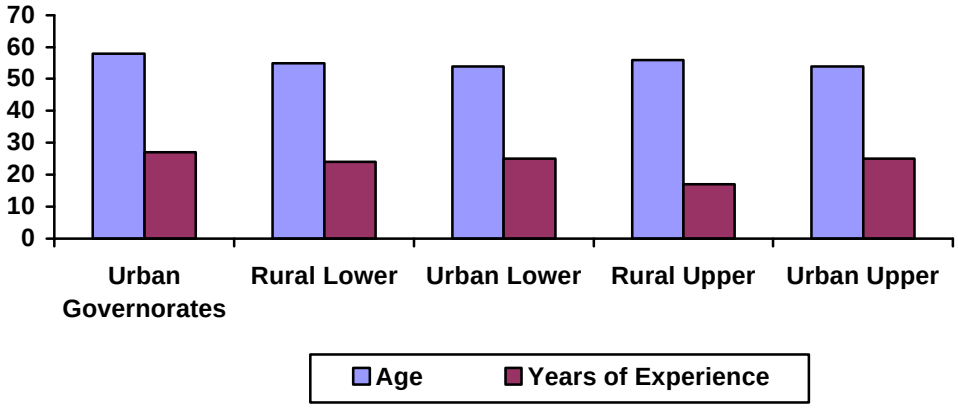
Figure 6.1: Distribution of Dayas by Region



6.3 Characteristics

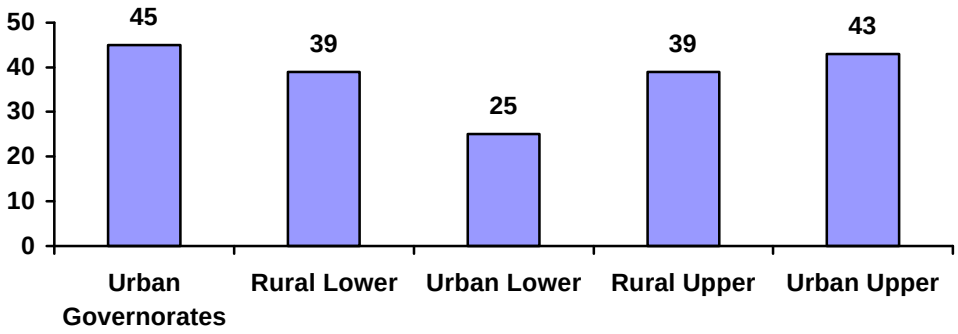
All birth attendants are female. The average age is 55 years, ranging from 54 years in urban areas of Lower and Upper Egypt to 58 years in urban governorates. They have an average of 22 years of experience working as a daya. Figure 6.2 presents the average age and years of experience by region.

Figure 6.2: Average Age and Years of Experience



Dayas are long-term residents of their community, living for an average of 38 years in their current residence. This ranged from 25 years in urban Lower Egypt to 45 years in urban governorates.

Figure 6.3: Years in Current Residence by Region



Half of the sample is married, 44 percent are widowed, 3 percent are single and 3 percent are divorced (Table 6.1).

Table 6.1: Marital Status of Dayas by Region (in percentages)

	Single	Married	Divorced	Widowed	Total
Urban Governorates	0	50	0	50	100
Rural Lower	3	52	2	43	100
Urban Lower	7	67	7	20	100
Rural Upper	2	39	4	54	100
Urban Upper	0	71	0	29	100
Total	3	50	3	44	100

The educational status of dayas is very low; 70 percent of the sample are illiterate. The lowest rates of illiteracy occur in Lower Egypt. Eleven percent of the sample attended secondary school or higher, while 12 percent report reading and writing as their highest educational status. Three percent attended primary school and 4 percent went to preparatory school. No one in the sample attended university. Table 6.2 presents educational status by region.

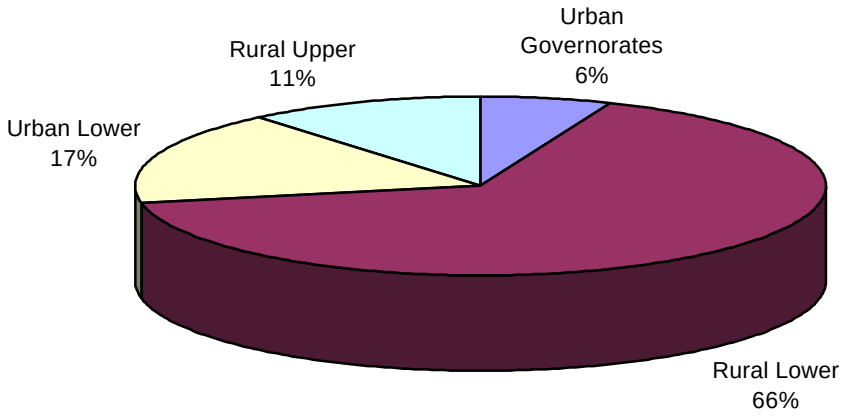
Table 6.2: Educational Status of Dayas by Region (in percentages)

	Illiterate	Read and Write	Primary	Preparatory	Secondary and Above	Total
Urban Governorates	83	0	0	0	17	100
Rural lower	62	9	7	5	17	100
Urban lower	53	27	0	7	13	100
Rural upper	83	13	0	2	2	100
Urban Upper	86	14	0	0	0	100
Total	70	12	3	4	11	100

6.4 Training Programs

Fourteen percent of the sample has a certificate in health care. The distribution of dayas with certificates by region is shown in Figure 6.4. The majority of dayas with certificates in health care are located in Lower Egypt, particularly in rural areas. On average, dayas have had these certificates for 21 years. This ranges from 18 years in urban governorates to 29 years in urban Lower Egypt. In rural Lower Egypt dayas have had their certificates for an average of 19 years, while those in rural Upper Egypt have had their certificate for 20 years.

Figure 6.4: Distribution of Dayas with Certificates by Region



The majority of dayas learned their job skills in a relatively informal setting. Mothers trained 29 percent of the sample and 25 percent were trained by a colleague. Mothers-in-law trained 12 percent. Only 11 percent received their training in a formal setting, while 8 percent learned their trade from other relatives or friends. People other than those listed above trained 16 percent of the dayas in the sample. The distribution by region of trainers is given in Table 6.3.

Table 6.3: Trainer of Birth Attendant by Region (in percentages)

	Mother	Mother -in- Law	Other Relatives/ Friends	Nursing School	Colleague	Other	Total
Urban Governorates	17	17	17	17	33	0	100
Rural Lower	24	16	3	16	21	21	100
Urban Lower	20	7	0	20	40	13	100
Rural Upper	37	4	15	2	26	15	100
Urban Upper	43	43	0	0	14	0	100
Total	29	12	8	11	25	16	100

Sixty-seven percent of the sample had some training in antenatal, natal and post-natal care. Dayas in rural Lower Egypt and Upper Egypt were most likely to have training in these three areas as shown in Table 6.4.

Table 6.4: Percentage of Dayas with Ante-Natal, Natal and Post-Natal Training

	Percentage of Ante-Natal, Natal and Post-Natal Training
Urban Governorates	33
Rural Lower	78
Urban Lower	53
Rural Upper	65
Urban Upper	57
Total	67

On average dayas attended three training programs since beginning their work, although this ranged from two to six programs (Table 6.5).

Table 6.5: Average Number of Programs Attended Since Commencing to Work as a Daya

	Mean Number of Programs Attended Since Beginning to Work
Urban Governorates	3
Rural Lower	3
Urban Lower	4
Rural Upper	2
Urban Upper	6
Total	3

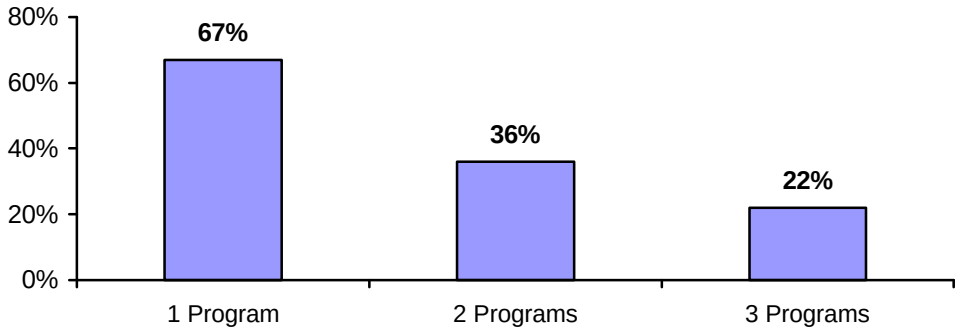
Dayas participated in an average of two training programs in the last five years. The most programs were attended by dayas in urban Upper Egypt, while those in Lower Egypt (urban and rural) attended the fewest. On average a program lasted 30 days. The shortest courses took an average of 13 days in urban Lower Egypt and rural Upper Egypt. The longest courses were an average of 45 days in rural Lower Egypt.

Table 6.6: Average Number of Training Programs in the Last Five Years

	Average Number of Training Programs in Last 5 Years	Average Duration
Urban Governorates	3	38
Rural Lower	1	45
Urban Lower	1	13
Rural Upper	2	13
Urban Upper	4	29
Total	2	30

To obtain more information on the occupational training of dayas, the survey asked the dayas specific questions about the last three training programs in health services they had attended. The most recent program was on average four years ago, the second most recent was five years ago, and the third most recent training was seven years ago. The distribution of dayas by the reported number of training programs attended is shown in Figure 6.5.

Figure 6.5: Distribution of Dayas by Reported Number of Training Programs Attended



Delivery was the most frequently covered topic in all programs. Family planning and child health care were most frequently covered in the second most recent program, but dropped slightly in the most recent program. Table 6.7 presents the distribution of topics covered by program.

Table 6.7: Topics Covered by Training Program

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
Delivery	81	81	79
Family Planning	19	21	14
Child Health Care	10	13	3
Other	12	6	7

Most programs had both theoretical and practical elements: 69 percent of the last program attended, 60 percent of the second most recent program and 72 percent of the third most recent program had both elements. Two percent of the most recent programs attended had only practical components. All other programs were either purely theoretical or had a mixture of theoretical and practical components (Table 6.8).

Table 6.8: Nature of Training (in percentages)

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
Theoretical	29	40	28
Practical	2	—	—
Both	69	60	72

The most recent training program were more likely to give dayas a delivery kit as part of their training than in previous courses as shown in Table 6.9.

Table 6.9: Distribution of Delivery Kit by Program (in percentages)

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
Yes	54	29	45
No	27	54	24
Not Applicable	19	17	20
Total	100	100	100

The most recent course lasted an average of 30 days. Previous courses tended to be much shorter in duration: 12 days for the second most recent program and 15 days for the third most recent program.[16]

Table 6.10: Duration (Days) of Training Programs

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
Urban Governorates	12	30	21
Rural Lower	52	17	22
Urban Lower	11	8	16
Rural Upper	7	6	7
Urban Upper	7	7	13
Total	30	12	15

[16] Percentages were calculated based on the number of dayas who reported attending each program.

The location of training programs is fairly evenly distributed between government hospitals, maternal and child health care centers and others. Maternal and child health care centers have become the main training location as the percentage has grown from 31 percent of the third most recent program to 39 percent of the most recent program.

Table 6.11: Location of Training Programs (in percentages)

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
Government Hospital	29.2	33.3	24.2
Maternal & Child Health Care Center	39.3	33.3	31.0
Other	31.5	33.3	44.8

6.5 Services Offered and Patient Visits

All dayas perform deliveries. Eighty-three percent provide post-natal care, but only 54 percent provide pre-natal care. The other services provided by a significant number of dayas are intramuscular injections (20 percent of sample), intravenous injections (15 percent) and first aid measures (11 percent). Table 6.12 presents the distribution of dayas by region according to the services provided.

Table 6.12: Percentage Distribution of Services Provided by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Delivery	100	100	100	100	100	100
Post-Natal Care	33	83	80	89	100	83
Pre-Natal Care	67	64	60	37	57	54
Intramuscular Injections	33	28	33	7	0	20
Intravenous Injections	17	22	20	7	0	15
First Aid Measures	17	14	7	11	0	11
ORT	17	7	0	4	0	5
Circumcision	0	0	7	7	14	4
Other	0	9	0	0	0	4
Immunization	0	2	0	7	0	3

Pre-natal care is not a standard service provided by dayas. As noted above, only 54 percent usually provide such care. On average, the dayas in the sample providing pre-natal visits reported having six pre-natal visits with expecting mothers. Mothers in rural Upper Egypt have nine pre-natal visits, in rural Lower Egypt they have five visits, and in all other areas they have four visits.

Table 6.13: Number of Pre-Natal Visits to Dayas Usually Providing Pre-Natal Services by Region

	Average Number of Pre-Natal Visits
Urban Governorates	4
Rural Lower	5
Urban Lower	4
Rural Upper	9
Urban Upper	4
Total	6

Table 6.14 presents the various procedures carried out at pre-natal check-ups. Nutritional information, health education and a general exam are the most common procedures.

Table 6.14: Check-up Procedures by Region (in percentages)

	Urban Governorates	Lower Rural	Urban Lower	Rural Upper	Urban Upper	Total
Nutritional Education	50	40	33	17	14	30
Health Education	17	38	20	22	14	28
General Exam	50	14	13	22	43	20
Obstetric Exam	33	17	—	13	29	15
Other	—	12	20	4	—	9
Urine Analysis	—	14	—	—	—	6
Chest Exam	—	9	—	4	—	4
Weight	—	9	—	—	—	4
Blood Pressure	—	5	—	—	—	2
Blood Picture	—	2	—	—	—	1

Over half the dayas surveyed report finding no complications with some patients at pre-natal checkups. The most commonly reported complications are the position of the baby, edema and bleeding. The least common are anemia, diabetes and pre-eclampsia. The distribution of dayas according to the different types of complications found at check-ups is given in Table 6.15.

Table 6.15: Percentage of Dayas Finding Pre-Natal Complications by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
No Problems	67	64	60	37	57	54
Position of Baby	33	19	13	15	57	20
Edema	33	26	13	9	14	18
Bleeding	17	17	20	13	0	15
Early Break of Water	0	16	7	9	14	11
Severe Colic	17	14	13	4	0	10
Severe Vomiting	0	9	0	9	0	7
Other	0	9	20	2	0	7
High Blood Pressure	0	9	7	4	0	6
Anemia	0	7	0	4	14	5
Pre-eclampsia	17	7	0	0	0	4
Cardiac Arrest	0	2	0	2	0	2
Diabetes	0	2	0	2	0	2

Sixty-three percent of dayas who reported finding complications at check-ups refer their patients to a physician, while the remaining 37 percent send them to a hospital. Approximately 23 percent of dayas referring patients to a physician or hospital always or sometimes write a referral report. It is not surprising that so few prepare reports, as 70 percent of the sample are illiterate. However, 82 percent of dayas check to see whether the referred patient actually visited the physician or hospital. On average seven patients were referred in the three months prior to the survey.

Table 6.16: Percentage of Dayas Referring Patients with Complications

	Refer to Doctor	Refer to Hospital
Urban Governorates	17	50
Rural Lower	40	24
Urban Lower	40	20
Rural Upper	26	11
Urban Upper	43	14
Total	34	20

On average four patients were referred to a physician or hospital in the last year. This ranged from three patients in urban governorates to six in urban Upper Egypt. Dayas in rural and urban Lower Egypt referred an average of four patients per year, while dayas in rural Upper Egypt sent an average of five patients to physicians or hospitals.

Table 6.17 shows the dayas requests to families for preparations made before delivery. The most common request is for thread, scissors and disinfectant. The least common requests are for a knife, bed sheets or other.

Table 6.17: Requests to Family Before Delivery by Region

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Threads	50	76	80	89	57	79
Scissors	100	86	67	72	71	79
Disinfectant	67	86	87	54	71	73
Hot Water	67	62	53	72	57	64
Macintosh	50	67	67	46	57	58
Soap	67	59	40	57	57	56
Cotton	50	62	60	43	0	52
Gloves	33	57	40	17	29	39
Bed Sheets	0	47	40	33	29	38
Other	17	43	40	33	29	37
Knife or Blade	0	12	20	39	86	26

Nearly all dayas wash their hands and arms with soap and water prior to the delivery. Approximately three-quarters of the sample boil and sterilize their instruments. Almost half of the sample prepares water with antiseptic for later use.

Table 6.18: Preparation Procedures by Daya Before Delivery by Region (in percentages)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Wash Hands and Arms	100	98	100	100	100	99
Boil and Sterilize Instruments	33	79	60	72	71	72
Prepare Water with Antiseptic	83	53	33	39	71	48
Wear Gloves	0	59	53	13	29	38
Have Enough Cotton	33	28	27	26	29	27
Other	0	12	13	7	0	9

The average maximum number of children delivered in any of the 12 months prior to the survey was nine, the least was three. Upper Egypt had the highest number of deliveries performed by dayas in any month, while urban governorates and urban Lower Egypt had the lowest. The average number of deliveries in the last year was 46 normal births and five difficult births. Again, the average number of births, both normal and difficult, were highest in Upper Egypt. Table 6.19 presents the above measures by region.

Table 6.19: Numbers of Deliveries per Month and per Year by Region

	Any Month Past Year		Deliveries Last Year	
	Max Number of Deliveries	Least Number of Deliveries	Normal Deliveries	Difficult Deliveries
Urban Governorates	6	1	26	3
Rural Lower	8	3	40	4
Urban Lower	5	1	25	4
Rural Upper	12	3	61	5
Urban Upper	11	4	63	7
Total	9	3	46	5

Ninety-five percent of the dayas interviewed follow up on their patients after the delivery, with an average of 4.63 visits.

Table 6.20: Follow-up Visits by Region

	Percentage of Dayas That Follow-up Patients	Average Number of Visits After Delivery
Urban Governorates	50	2.67
Rural Lower	100	4.57
Urban Lower	93	4.29
Rural Upper	96	4.84
Urban Upper	100	5.29
Total	95	4.63

If problems arise at any of the follow-up meetings the patient is most likely to be referred to a physician, as shown in Table 6.21. In some cases, dayas will give advice (5 percent) or treat the condition themselves (8 percent).

Table 6.21: Procedures for Post-Natal Problems Arise by Region (in percentages)[17]

	Give Advice	Treat Yourself	Refer to Doctor	Refer to Hospital	Others
Urban Governorates	17	0	33	17	0
Rural Lower	5	10	91	21	0
Urban Lower	7	7	80	20	0
Rural Upper	2	4	85	17	2
Urban Upper	0	14	71	43	0
Total	5	8	84	20	1

As dayas provide a significant amount of reproductive health care, they were asked about their knowledge of family planning methods. Table 6.22 lists different methods of family planning and the distribution of dayas that immediately recognized these methods. The most familiar methods of

[17] More than one response is allowed.

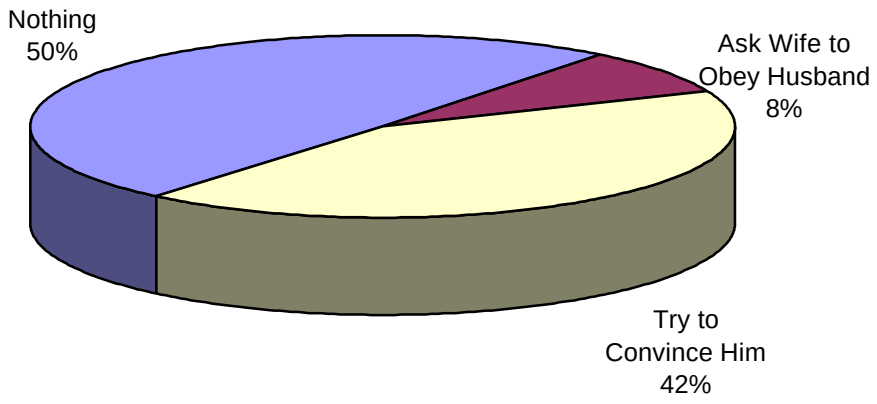
family planning were the contraceptive pill and the IUD. The least familiar methods were male sterilization and withdrawal. All methods were known in rural Lower Egypt. In contrast, male and female sterilization and the withdrawal method were not immediately known by any daya in Upper Egypt or urban Lower Egypt.

Table 6.22: Contraceptives Known by Dayas (in percentages)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper
Pill	83	93	100	96	100
IUD	83	95	100	93	100
Diaphragm	33	22	7	7	14
Condom	33	47	47	15	14
Norplant	67	16	13	4	14
Injections	67	71	60	48	71
Foam Tablets	—	26	13	9	14
Female Sterilization	17	14	—	—	—
Male Sterilization	—	7	—	—	—
Withdrawal	—	10	—	—	—
Rhythm	17	12	—	2	—
Prolonged Breast Feeding	33	10	7	7	14

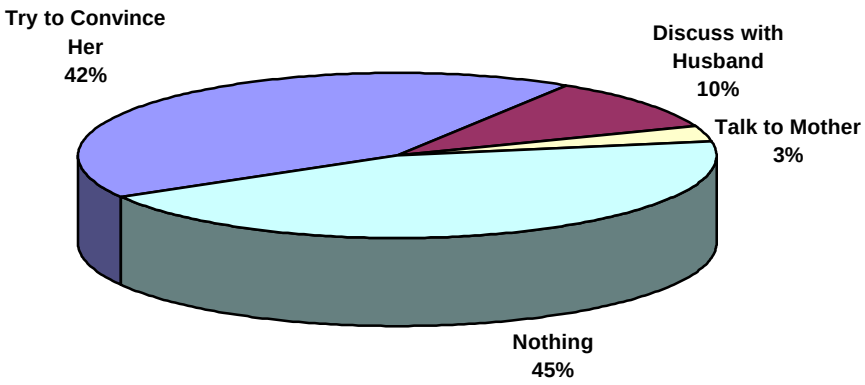
Approximately 20 percent of the sample of dayas never advise mothers on family planning after the birth. Seventy-one percent sometimes advise mothers, while 10 percent always advise on family planning methods. Fifty-five percent of dayas giving advice on family planning will help the woman to select a suitable method for her. In some cases the husband will object to his wife using family planning methods. If this is the case, 50 percent of dayas will do nothing, 42 percent will attempt to discuss the matter with the husband, and the remaining 8 percent will tell the wife to obey her husband.

Figure 6.6: Procedure if Husband Objects to Wife Using Family Planning



If it is the wife who does not want to use family planning methods, nearly half of the dayas will do nothing, 41 percent will try to convince her to use some method of family planning and the remaining will talk with her husband or her mother.

Figure 6.7: Procedure if Wife Objects to Using Family Planning



6.6 Income

The dayas were asked what form of payment they accept for their services. Table 6.23 shows the distribution of acceptable payment methods by region. The majority (69 percent) accepts cash only. Three percent accept full payment in goods for services received, while 22 percent accept a combination of cash and goods. Five percent of the sample declared that they do not charge for their services and 1 percent refused to answer questions about their income.

Table 6.23: Distribution of Payment Methods by Region

	Free	Cash	Goods	Cash & Goods	Refuse
Urban Governorates	0	100	0	0	0
Rural Lower	5	78	2	16	0
Urban Lower	20	67	0	7	7
Rural Upper	2	50	7	41	0
Urban Upper	0	100	0	0	0
Total	5	69	3	22	1

A fixed fee per service is not common among dayas. Sixty-eight percent set their fee according to the economic condition of their client. All dayas in urban governorates set fees in this way and it is also relatively common in Upper Egypt. Twenty-four percent allow the client to decide the fee. Dayas in rural Lower Egypt and urban Upper Egypt are most likely to let clients decide their fee. Two percent use other methods to determine the fee charged. Table 6.24 shows the distribution by region of how fees are determined.

Table 6.24: Distribution of How Fee is Set

	Free	Client's Decision	Economic Condition of Client	Other	Refuse
Urban Governorates	0	0	100	0	0
Rural Lower	5	34	59	2	0
Urban Lower	20	20	53	0	7
Rural Upper	2	15	80	2	0
Urban Upper	0	29	71	0	0
Total	5	24	68	2	1

The average lowest and highest fee received[18] is presented in Table 6.25 by region. The highest cash fees were earned by dayas in urban governorates and the lowest by dayas in urban Upper Egypt. Goods are accepted as a method of payment in rural areas only, but their money value is very little.

Table 6.25: Average Lowest and Highest Fee Received by Payment Method and Region (L.E.)

	Cash		Goods		Total	
	Lowest	Highest	Lowest	Highest	Lowest	Highest
Urban Governorates	12	32	0	0	12	32
Rural lower	5	14	1	2	6	16
Urban lower	6	18	0	0	6	18
Rural upper	5	15	2	9	7	24
Urban Upper	4	16	0	0	4	16
Total	5	16	1	4	6	20

Although no specific questions were asked about the exact fee charged, dayas were asked to report the income per month earned from deliveries and other work and the total income received. There were no replies to income received from other work. Table 6.26 presents the average income from deliveries and total income per month. The reported average monthly income from deliveries is very low at L.E. 38, as is the average total monthly income of L.E. 66. Dayas in urban Lower Egypt and urban governorates have the highest average reported monthly income. While the majority of income is derived from deliveries for dayas in urban governorates, the majority of income for dayas in urban Lower Egypt is derived from other work.

[18] The interviewer determined the money value of goods received.

Table 6.26: Average Income Earned per Month by Region (L.E.)

	Deliveries	Total
Urban Governorates	71	83
Rural Lower	27	65
Urban Lower	26	85
Rural Upper	50	59
Urban Upper	50	72
Total	38	66

6.7 Quality

Relative to the previous year, 61 percent of dayas report a falling trend in the number of pregnant women. Dayas reporting an increasing trend tended to be located in rural areas as shown in Table 6.27. No change in the trend of pregnant women was reported by 17 percent of the sample.

Table 6.27: Trend in Number of Pregnant Women Relative to Previous Year (in percentages)

	No Change	Increased	Decreased
Urban Governorates	17	17	67
Rural Lower	12	16	72
Urban Lower	20	0	80
Rural Upper	17	17	17
Urban Upper	57	43	—
Total	17	21	61

The reported job satisfaction rate for dayas was very high at 74 percent. However, among those dissatisfied, most reported that being granted permission to have a private practice would increase their satisfaction. Provision of proper training and other reasons were less popular suggestions to increase satisfaction as shown in Table 6.28.

Table 6.28: Satisfaction with Job and Ways to Improve Satisfaction (in percentages)

	Satisfied Now	Permission for Private Practice	Provision of Proper Training	Other
Urban Governorates	67	33	—	—
Rural Lower	74	14	14	4
Urban Lower	73	20	13	2
Rural Upper	17	17	17	3
Urban Upper	86	29	—	—
Total	74	20	8	9

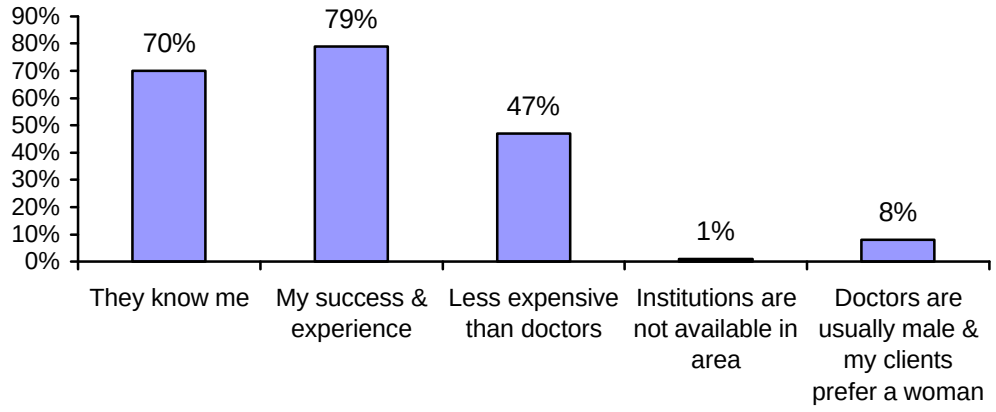
As part of their post-natal care program many dayas provide advice to mothers on how to care for their child. The information provided gives some insight into the quality of care provided by dayas. The most common advice given is how to clean the child and how and when to breast-feed. However, only 72 percent and 70 percent of dayas, respectively, give such advice. Less than half the dayas give advice to the mother about her own hygiene and the importance of the mother's nutrition after birth. Only 17 percent of dayas give advice on immunization procedures for the child. Table 6.29 shows the percentage of dayas in each region offering the above and other advice.

Table 6.29: Advice of Delivery Woman to New Mothers (in percentages)

	Urban Governorates	Rural Lower	Urban Lower	Rural Upper	Urban Upper	Total
Cleanliness of Child	67	67	60	80	86	72
Breast-feeding the Child	83	67	73	72	57	70
Advice for Mother	33	72	33	22	43	47
Nutrition of the Mother	17	53	53	26	14	40
Immunization of Child	17	26	13	9	—	17
Circumcision of Male	17	10	0	9	14	9
Treatment of Diarrhea	17	12	7	7	—	9
Other	—	2	7	2	—	2

Seventy-nine percent of dayas feel that their experience and success is why women come to them for help with delivering their baby. Other popular reasons are that the women know them and that they are less expensive than having a physician deliver the baby. Only 1 percent of the sample feels that women have no choice but to use a daya due to a lack of medical facilities in the vicinity. Figure 6.8 shows the percentage of dayas according to why they think women come to them for help in delivering.

Figure 6.8: Dayas' Perceptions of Why Patients Choose Them



7. Other Health Services Providers

7.1 Introduction

The Egypt Health Services Providers survey included an investigation of traditional healers and other non-physicians who provide health care to the public. They are mainly unlicensed providers who are not officially allowed to operate, but who nevertheless provide a significant amount of health care. Due to their unofficial status, it was very difficult to get these health providers to participate in the survey. The resulting sample size is very small with 80 health services providers from urban governorates and urban and rural regions of Upper and Lower Egypt. Therefore this report should be viewed as a case study, rather than a comprehensive national analysis of these health services providers. Ninety-eight percent of the sample was interviewed in the health provider's house and 2 percent were interviewed at their place of work.

7.2 Geographic Distribution

The health services providers interviewed were mostly located in rural areas: 64 percent were in rural Lower Egypt and 19 percent were in rural Upper Egypt, in comparison with 5 percent both in urban governorates and urban Upper Egypt and 7 percent in urban Lower Egypt. All providers live in a city or town in the same governorate where they practice.

7.3 Characteristics

This section examines some general characteristics, such as age and gender, of traditional health care providers and the occupational training and background of the sample.

7.3.1 General Characteristics

Unlike physicians in private clinics and institutions, the majority of traditional health services providers are female.[19] In urban Lower Egypt there are no male providers, and in all other regions of Egypt there are at least as many female providers as there are male providers. The average age of a traditional health service provider is 38 years: 46 years for males and 31 years for females. Male providers are significantly older than their female counterparts. This probably reflects a decline in males entering these fields. On average, providers have lived in their current residences, where most practice, for 24 years. Again, the average is much higher for males at 40 years than for females at 16 years.

[19] This is probably due to the fact that female providers were more willing to participate in the survey than their male counterparts. It is widely accepted that there are more male than female providers on a national level.

Table 7.1: General Characteristics of Providers by Gender and Region

	Distribution of Sample	Average Age	Average Number of Years in Residence
Male			
Urban Governorates	1	35	21
Rural Lower	21	45	38
Urban Lower	0	-	-
Rural Upper	12	46	29
Urban Upper	2	51	40
Total	36	46	35
Female			
Urban Governorates	3	41	34
Rural Lower	30	29	13
Urban Lower	6	37	24
Rural Upper	3	34	20
Urban Upper	2	32	13
Total	44	31	16
Urban Governorates	4	40	30
Rural Lower	51	36	23
Urban Lower	6	37	24
Rural Upper	15	44	27
Urban Upper	4	42	26
Total	80	38	24

Eighty-four percent of the sample are married, 10 percent are single, 2.5 percent are Katb Kitab (betrothed), 2.5 percent are widowed and 1 percent are divorced. Table 7.2 shows the highest educational level attained by the sample. None of the providers had attained a degree or attended a university for any period of time. Forty-three percent of the sample attended secondary school and/or occupational training. Providers in urban areas were more likely to have attended primary or secondary school than providers in rural areas were. Nineteen percent of the sample is illiterate and most likely to be male and living in a rural area. In the sample, females are more likely to have attended preparatory or secondary school than their male counterparts.

Table 7.2: Highest Educational Level Attained by Region (in percentages)

	Illiterate	Read and Write	Primary	Preparatory	Secondary–above Secondary	Total
Male	25	33	22	3	17	100
Female	14	5	5	14	64	100
Total	19	18	13	9	43	100
Urban	7	7	29	0	57	100
Rural	21	20	9	11	39	100
Total	19	18	13	9	43	100

7.3.2 Occupational Training

The providers were asked what, if any, occupational training they had. Forty-four percent of the sample had attained a certificate in the field of health care that they provide. It is more likely for females in the sample to have a certificate; 73 percent of females have a certificate in comparison with only 8 percent of males. Also, those living in urban areas are more likely to have a certificate.

Table 7.3: Percentage Distribution of Providers with Certificates by Gender and Region

	Yes	No	Total
Male	8	92	100
Female	73	27	100
Total	44	56	100
Urban	57	43	100
Rural	41	59	100
Total	44	56	100

Eighty-three percent of providers with a certificate had a certificate in secondary nursing, 14 percent had a nursing diploma and 3 percent had a certificate in preparatory nursing. On average, providers got their certificates 11 years ago. Females had 11.4 years of experience, while males only had 5.7 years of experience. Providers in urban areas had much more experience than their rural counterparts (16.8 years versus 9.2 years, respectively).

Table 7.4: Percentage Distribution of Education by Gender by Region

	Preparatory Nursing	Secondary Nursing	Nursing Diploma	Total
Male	0	67	33	100
Female	3	84	13	100
Total	3	83	14	100
Urban	0	100	0	100
Rural	4	78	19	100
Total	3	83	14	100

The survey asked providers if they had attended any training programs. Approximately 43 percent of the sample had attended an average of four training programs; providers in urban areas attended six programs, while those in rural areas had attended three programs. Females averaged four programs, twice as many as their male counterparts.

The survey inquired about the various aspects of the last three training programs attended by providers. Table 7.5 presents the amount of time elapsed since the previous three programs were taken and how long the programs lasted. On average it has been approximately four years since the last two programs were taken and almost seven years since the third last training program was taken.

Table 7.5: Number of Years since Last Training Programs by Gender and by Region

	Last Training	Second Last Training	Third Last Training
Male	10.6	6.0	8.0
Female	1.8	3.7	6.6
Total	4.1	4.1	6.7
Urban	1.5	4.5	5.6
Rural	4.6	3.9	7.2
Total	4.1	4.1	6.7

On average, the most recent training program lasted 22 days, but it ranged from seven to 63 days. Earlier programs tended to be shorter in length and have a smaller range: on average the second to last program was for 10 days and ranged from two to 16 days, while the third most recent program was for 16 days and ranged from eight to 22 days.

Table 7.6: Length of Training Programs (Days) by Gender and Region

	Last Training	Second Last Training	Third Last Training
Male	46.4	11.3	11.0
Female	13.5	9.2	16.6
Total	22.2	9.5	16.0
Urban	27.0	9.7	16.6
Rural	21.2	9.5	15.8
Total	22.2	9.5	16.0

The majority of previous training programs took place in a government hospital. Other institutions and medical societies were also significant providers of training programs. Nursing schools only trained individuals in the most recent program. Details by program are presented in Table 7.7. Most programs had theoretical and practical components. Approximately a third of all programs had only a theoretical component. The most common topics covered in the last or most recent training program were family planning, first aid and post-natal care. In the second most recent program post-natal care, oral re-hydration therapy and immunization were most frequently covered, while in the third most recent program the most common topics covered were family planning, oral rehydration therapy, chest diseases and first aid. That oral rehydration is no longer a frequent topic in training programs may be an indication of an overall health improvement among the population.

Table 7.7: Description of Training Programs by Job

	Most Recent Program	Second Most Recent Program	Third Most Recent Program
	Location of Training Program (Percentage)		
Government Hospital	47	46	56
Medical Society	12	21	22
Training Center	18	8	6
Nursing School	3	—	—
Other	20	25	17
	Nature of Program (Percentage)		
Theoretical	35	29	39
Practical	6	8	11
Both	59	63	50
	Main Topics Covered (Percentage)		
Family Planning	20	8	22
Oral Rehydration Therapy	9	17	22
Immunization	15	17	6
Belharisia Care	9	8	6
Post—Natal Care	18	29	—
Chest Diseases	9	8	22
First Aid	20	13	22

7.4 Services Offered and Patient Visits

Table 7.8 shows the distribution of traditional health providers according to the services they provide. Nearly all providers give injections to patients and 75 percent of providers, mostly in urban areas, dress wounds. Fluid infusion is offered by 59 percent of providers, who are most likely to be located in rural areas. Bone setting and other services are less common, offered by 15 percent and 8 percent of providers, respectively.

Table 7.8: Distribution of Providers by Services Offered by Gender and by Region

	Injections	Dressing	Fluid Infusion	Other	Bone Setting
Male	92	72	53	17	14
Female	100	77	64	14	2
Total	96	75	59	15	8
Urban	100	93	50	21	14
Rural	95	71	61	14	6
Total	96	75	59	15	8

Fifteen percent of providers perform surgical procedures in their work where they were interviewed: 92 percent drain abscesses, 50 percent suture wounds, and 8 percent perform other procedures. Providers who perform surgical procedures are more likely to be located in urban areas; only 8 percent of those performing surgical procedures are located in rural areas.

Twenty-four percent of providers furnish patients with drugs or some type of medication. In most cases (69 percent), they are drugs obtained in a pharmacy. Five percent of providers giving medication to their patients give herbal medicines or plant extracts, while 21 percent give a combination of both. Five percent give medication other than that bought in a pharmacy or herbal medicines.

The average number of patient visits per week and per month is presented in Table 7.9. On average, providers attend to 26 patients per week. However, this ranges from eight visits per week in urban Lower Egypt to 85 visits per week in rural Upper Egypt. Forty-one percent of the sample reported that the number of clients had increased since the previous year, 34 percent stated that client numbers had remained constant, while 23 percent reported a decrease in the number of clients. It was the first year of work for 3 percent of the sample and so they were unable to make a comparison.

The average number of clients in the previous month ranged from 26 to 58 visits to give an overall average of 47 visits. Average client numbers were broken down by age (children under 15 years and adults) and then by gender. Overall, there is only a marginal difference between child visits by gender: 22 visits by male children and 21 visits by female children. For adults it was reversed: 21 visits by males and 24 visits by females. There is a discrepancy in the data, as the sum of clients by gender does not equal the average total number of clients.

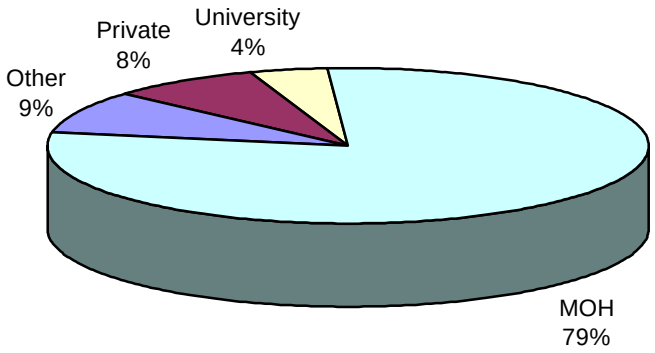
Table 7.9: Average Number of Patient Visits per Week and per Month by Region

	Average Number of Patients per Week	Average Number of Patients per Month	Average Number of Children Visits per Month		Average Number of Adult Visits per Month	
			Male	Female	Male	Female
Male	18	47	40	37	42	39
Female	33	48	7	8	4	11
Total	26	47	22	21	21	24
Urban	12	35	7	8	9	10
Rural	29	50	25	24	23	27
Total	26	47	22	21	21	24

7.5 Multiple Employment

Sixty-six percent of the sample has a second job and 1 percent have a third job. The distribution of second jobs by affiliation is shown in Figure 7.1. All third jobs are in the private sector.

Figure 7.1: Distribution of Second Jobs by Affiliation



Health centers are the primary place of employment of all health services providers interviewed for this survey. For those with multiple employment, rural and urban health units employ 58 percent of providers with second jobs. Eight percent of those with second jobs work in a hospital, another 8 percent are employed in private clinics and 4 percent work in health centers. Table 7.10 shows the distribution of multiple employment by institution type. As most providers are located in rural regions, the majority of multiple employment is also located in rural regions.

Table 7.10: Distribution of Multiple Employment by Institution Type

	Hospital	Health Center	Rural/Urban Unit	Private Clinic	Other	Total
Male	1.9	0.0	22.6	3.8	7.5	35.8
Female	5.7	3.8	35.8	3.8	15.1	64.2
Total	7.5	3.8	58.5	7.5	22.6	100.0
Urban	3.8	3.8	1.9	3.8	7.5	20.8
Rural	3.8	0.0	56.6	3.8	15.1	79.2
Total	7.5	3.8	58.5	7.5	22.6	100.0

Table 7.11 examines the hours and days worked in the various jobs. It is apparent that the majority of providers spend more time per week in their second job than any other job. On average, providers work 38 hours per week in their second job, 29 hours in the job where they were interviewed and 36 hours in their third job. On average, providers have worked in their first job longer than in any other employment. In fact, those with a third job only began work there the year the survey was carried out.

Table 7.11: Comparison of Multiple Employment with First Job

	First Job	Second Job	Third Job
Years in Job	15	11	0
Average Number of Days Worked per Week	6	6	6
Average Number of Hours Worked per Day	4	6	6
Average Number of Hours Worked per Week	29	38	36

7.6 Income

When asked for information on how they are paid for their services, 61 percent of health services providers reported that they do not charge any fees for the services they provide (Table 7.12). This ranged from 33 percent of providers in rural Upper Egypt to 100 percent of providers in urban Lower Egypt. These figures are to be expected as these providers are outside the official labor market and so are reluctant to provide any details of their income. However, the survey gathered enough anecdotal evidence to believe that all providers charge fees. Twenty-six percent of providers reported that they accept cash only, 4 percent accept goods as payment and 9 percent accept a combination of both.

Table 7.12: Distribution of Payment Methods for Services by Region

	Cash	Goods	Cash & Goods	No Fees	Total
Male	42	6	17	36	100
Female	14	2	2	82	100
Total	26	4	9	61	100
Urban	7	0	21	71	100
Rural	30	5	6	59	100
Total	26	4	9	61	100

The providers who charge fees were asked to give the average fee charged for various services. The response rate was approximately 10 percent, which does not give a representative view of the price charged. Providers were then asked what is the lowest and highest fee they received for their services. The response rates to these questions were much higher, but not very credible. For example, one provider in rural Upper Egypt reported that the highest fee ever received for a dressing was L.E 1,100, while another provider in rural Lower Egypt received L.E. 1,300 for a fluid infusion.

Providers were asked how much they earned from the job where they were interviewed and any other work they do. They were also asked a separate question of what their total income was. On average L.E. 17 was earned per month from their current work and L.E. 121 from other work. Average total income per month was L.E. 103. No information was provided on the cost of services provided. As all providers charge fees, but only 26 percent of the sample reported receiving cash payments, it is reasonable to assume that any reported income from working as a traditional health provider has been greatly understated and not much significance can be attached to the figures reported in Table 7.13.

Table 7.13: Average Monthly Income

	Current Work	Other Work	Total
Male	34	113	106
Female	3	126	100
Total	17	121	103
Urban	19	147	135
Rural	17	115	96
Total	17	121	103
Reported Income > 0	32.5%	69%	80%

7.7 Quality

The quality of the services provided was assessed by examining what follow-up procedures providers had and how they deal with medical problems that they cannot treat. On average, 50 percent of providers follow-up on the progress of their clients. As can be seen in Table 7.14, providers in rural areas are more likely to follow up with their clients and specify the follow-up appointment than providers in urban areas.

Table 7.14: Distribution of Providers that Follow-up on Patients by Region (in percentages)

	Yes	Not Applicable	Specify Follow-up Appointment
Male	56	6	70
Female	45	7	40
Total	50	6	55
Urban	43	0	50
Rural	52	8	56
Total	50	6	55

When they cannot help a patient with a medical problem, 59 percent of the sample refer the patient to a doctor, 35 percent refer them to a hospital or health unit, but 5 percent do nothing (Table 7.15).

Table 7.15: Procedure Followed When Provider Cannot Help Patient (in percentages)

	Refer to Hospital	Refer to Doctor	Do Nothing	Total
Male	47	47	6	100
Female	27	68	5	100
Total	36	59	5	100
Urban	43	57	0	100
Rural	35	59	6	100
Total	36	59	5	100

Twenty-one percent of the sample reported facing problems that negatively affect their work. These problems included lack of health services facilities and lack of health education. On average 41 percent of the providers reporting problems stated that they lack health education, 35 percent felt there was a lack of health services facilities, and 24 percent reported other problems. The majority of urban area providers with problems felt that a lack of health education was the biggest issue facing them. In contrast, rural providers facing problems were almost equally divided between a lack of health facilities, a lack of health education, and other problems. The distribution of problems faced by providers is given in Table 7.16.

Table 7.16: Problems Faced by Providers by Region (in percentages)

	Lack of Health Services Facilities	Lack of Health Education	Other	Total
Male	40	40	20	100
Female	33	42	25	100
Total	35	41	24	100
Urban	25	75	0	100
Rural	38	31	31	100
Total	35	41	24	100

The most commonly suggested solution to the problems faced was the provision of health education. Twenty-four percent felt solutions other than health education and increasing the availability of medical services would help overcome the problems faced in the workplace. Eighteen percent of providers with problems suggested increasing the availability of medical services would help to alleviate their work problems.

Table 7.17: Solutions Suggested to Overcome Problems (in percentages)

	Health Education	Availability of Medical Services	Other	Total
Male	40	40	20	100
Female	67	8	25	100
Total	58.8	17.6	23.5	100
Urban	100	0	0	100
Rural	46	23	31	100
Total	58.8	17.6	23.5	100

Overall, participation in government or voluntary programs was low, except for immunization campaigns, where 50 percent of the providers sampled participated. Thirty-nine percent of providers participated in health education programs and 29 percent participated in family planning programs. Low participation rates probably reflect the low level of education attained by the sample.

Table 7.18: Participation in Governmental or Voluntary Organizations in Public Health Projects (in percentages)

	Immunization Campaigns	Family Planning	Health Education	Other
Male	33	19	31	6
Female	64	36	45	11
Total	50	29	39	9
Urban	29	7	29	0
Rural	55	33	41	11
Total	50	29	39	9

Forty-four percent of the traditional providers sampled reported that patients come directly to them; that is, they do not first see a physician. Approximately one-fifth of providers state that clients frequently come to them after consulting a physician, while 35 percent reported this occurs sometimes.

Table 7.19: Distribution of Providers where Patients come after Consulting Physicians (in percentages)

	Frequently	Sometimes	Never	Total
Male	22	31	47	100
Female	20	39	41	100
Total	21	35	44	100
Urban	14	36	50	100
Rural	23	35	42	100
Total	21	35	44	100

Health services providers strongly feel that it is their personal experience and familiarity with clients that causes their patients to consult with them rather than physicians. Fifty-eight percent of the sample feels their previous successes brings clients to them. Another common reason (40 percent) was that the cases were simple and so did not require a physician. Only a quarter of providers feel patients see them rather than physicians because they are less expensive. Nine percent thought patients consult them because there are no physicians in the immediate vicinity, while 8 percent gave other reasons. Only 1 percent of the sample felt patients attend the health provider because they prefer dealing with a woman rather than a male physician.

Table 7.20: Opinion of Providers as to why Patients Consult with them (in percentages)

	Male	Female	Urban	Rural	Total
They know me	83	77	86	79	80
My experience and success	64	52	64	56	58
Cases are simple and do not need a doctor	53	30	43	39	40
Less expensive than doctors	36	16	14	27	25
Doctors are not available in this area	8	9	0	11	9
Other	11	5	7	8	8
Doctors are most likely men and my clients prefer a woman	0	2	0	2	1

Annex: Surveyed Institutions and Areas

The survey classified institutions according to the following 11 types:

1. Hospital
2. Health Center/Research
3. Health Group
4. Polyclinic/General Clinic
5. Health Office
6. School Health Unit
7. Rural/Urban Unit
8. Maternal and Child Health Center/Unit
9. Family Planning Center/Unit
10. Polyclinic inside Institution
11. Other

The administrative affiliations of the institutions are as follows:

1. Ministry of Health
2. Other Ministries
3. University
4. Educational Institutions and Hospitals
5. Cairo Curative Organization
6. General Organization of Health Insurance
7. Public Sector Company
8. Syndicate/Professional Group
9. Private Sector/Investment
10. Co-operative
11. Other

The 12 governorates used in the survey are:

Urban Governorates

1. Cairo
2. Alexandria
3. Port-Said
4. Suez

Lower Egypt

1. Dakahlia
2. Kalyubia
3. Gharbia
4. Behera

Upper Egypt

1. Giza
2. Beni-Suef
3. Assuit
4. Qena